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THE FARM INDEX

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THE GREAT PLAINS STORY/PAGE 19

TRI-AGENCY READING ROOM

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Corn supply shrinks a tenth. That's how the situation looked as of late September.

Estimators placed supply at about 5.1 billion bushels—down 10 percent from 1969/70—based on the forecast for this year's crop. The crop itself may be a shade under 4.2 billion bushels, nearly 400 million less than last year.

In effect, this figure for corn reduces the crop estimate for all feed grains to around 160 million tons, or 6 million tons lower than the September 1 estimate and 14 million below the '69 harvest. This would give a total feed grain supply of about 208 million tons—off 7½ percent from 1969/70 but only slightly below the 1964-68 average.

About the *southern corn leaf blight*, the Department reports the disease was most severe in the southern States east of the Mississippi and in southern Ohio, Indiana, and Illinois. Weather through the first half of September favored the spread of the blight.

The wheat question. Estimated supply for year ending next June 30 remains unchanged at 2.2 billion bushels, give or take a few.

How much will be used is a different story: the estimate of 1.35 to 1.40 billion bushels may prove to be conservative.

Item. More wheat will be fed to livestock than was calculated earlier. Main reason is the prospect of a reduced corn supply.

Item. Exports are moving much faster than previously anticipated. As of mid-September, registrations for export sales totaled 185 million bushels, against only 95 million in July-September 1969.

Uncertainty over the corn crop—and the brisk pace of exports—pushed the average farm price for wheat to \$1.41 a bushel in September—17 cents above the comparable 1969 level and 16 cents above the CCC loan rate.

Beyond the City Line

Just off the press is a book about rural America and the forces constantly reshaping the lives of its people and their environment.

Contours of Change is the name of the volume. It's the 1970 Yearbook of Agriculture. It covers all the facts of life outside the great metropolitan areas, and links them to the national and international scene.

The scope of the book is particularly timely since much of the upcoming increase in our population numbers and our unabating economic development is bound to take place "beyond the city line"—where a third of all Americans now live, farmers and nonfarmers.

"Within the coming 30 years this country's population is expected to increase by perhaps as much as 100 million. In the decade of the seventies alone, a half-trillion-dollar expansion in economic activity is foreseen," Secretary of Agriculture Clifford M. Hardin writes in the foreward.

He envisages the "expansion of present towns and small cities . . . with new centers of growth in America's heartland."

In 408 pages and hundreds of photos—many in color—the book flashbacks to rural America's past, sizes up its present problems and potentials, and envisages its future.

The new Yearbook, 71st since USDA began the series in 1894, has 59 popularly written chapters grouped in four sections: The Agricultural Revolutions; Country and City—One Nation; America's New Role in World Agriculture; and A Look Into the Future. Authors are mainly specialists from the USDA and State land-grant colleges.

Among provocative chapter titles are "What's Happened to Farming," "Making a Better Apple, or Puzzles and Pomology," "Philosophies of Rural Life," and "How They Saved the Soup . . ."

USDA does not give out or sell the Yearbook. Members of Congress distribute a limited supply, free, to the public. Copies are for sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Price is \$3.50.

Soybeans. Last year U.S. producers didn't grow enough 'beans to satisfy the billowing demand.

Moreover, utilization in the 1970/71 marketing year (started September 1) is expected to top the 1970 crop—a repetition of last year's story. Come September next, stocks may be reduced to minimum operating levels.

In view of the relatively tight supply-demand situation and higher prices for soybeans, acreage sown to soybeans next spring is expected to increase in order to meet anticipated requirements for domestic crush and exports.

Meanwhile, soybean processors are moving forward with plans to expand operations. By next year processing capacity may reach 900 million bushels, against somewhat over 800 million now.

Reduced soybean supplies in 1970/71 and continued strong demand are expected to hold farmers' prices above last season's \$2.35 average cash price.

Meat for the holidays. Red meat prices, retail, are seen holding near present levels. One exception is pork—prices going down due to a larger hog slaughter this fall. In a word, homemakers can look forward to general price stability following increases throughout most of 1969.

Poultry prices are also seen largely unchanged at the retail level. Turkeys might edge lower. But as usual, the best holiday buys, pound-for-pound, will be broilers.

Late tomatoes. The important fall crop in Florida, where the harvest is getting under way, appears to be larger than last year's. A 4-percent drop in overall acreage will probably be more than offset by a heavier yield of staked tomatoes. Unlike last fall, when the crop suffered weather damages, growing conditions till now have been generally favorable.

Once again, import competition

from Mexico will stay very much in the picture. Tomato imports rose almost 30 percent during November 1969-June 1970 to nearly 20,000 carlots.

Foreign spotlight. Agricultural production in the Western Hemisphere (excluding the United States and Cuba) is heading close to last year's record outturn. Not only have growing conditions been good, but there has been more emphasis on expansion and diversification in agriculture in an effort to support overall economic development.

India. Imports of food grains will be lower in 1970/71, reflecting a bumper food grain harvest. Preliminary reports indicate the crop may well be a new record . . . approaching 103 million tons.

Brazil. Following record exports of cotton in 1969, Brazil this year is having to import the fiber. In a surprise action, the government recently announced intentions to buy 184,000 bales (40,000 tons) from the United States and others. The purchase is necessary because of a severe drought in the Northeast that is expected to take a heavy toll on long-staple production this year. Brazil's request for price information on imports specifies medium-long to extra-long staple lengths.

USSR. The livestock inventory is getting bigger. At mid-year, hogs on state and collective farms were 25 percent more numerous than in 1969—thus reversing a 3-year downtrend. The poultry count rose 21 percent. Cattle, sheep, and goats were also up, though slightly.

By year's end, inventories in all categories are expected to register increases over 1969. This factor—plus improved feed supplies—will enable Soviet meat and milk output to pull out of the slump experienced in 1969. (See page 18.)

Special 10-page section

FARM

RURAL

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FOREIGN

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Timely Tale



of an Ancient Culture

Lessons from history suggest that Americans take care to keep their irrigated cropland from reverting to wasteland full of salt deposits.

Few U.S. farmers today worry about what happened to the Mesopotamians.

But perhaps they should. Especially those farmers who depend more and more heavily on irrigation to produce bumper crops.

Mesopotamia was an ancient country in Southwest Asia located along the Tigris and Euphrates

Rivers several centuries before the birth of Christ.

Its agriculture was largely dependent on irrigation practices that were highly sophisticated for the time—just as our U.S. agriculture is today.

Over the years, however, the Mesopotamian people failed to maintain silt- and weed-free irrigation canals. They allowed silt to build up on the land until their fields were higher than the water could rise in the canals. And—perhaps most important—they allowed the irrigation water to “salt up” the soil.

Today this once lush area, still believed by some to be the location of the Biblical Garden of Eden, is a wasteland of salt flats and desert extending over vast areas of the Middle Eastern countries of Syria and Iraq.

Unfortunately, reducing a thriving country like Mesopotamia to a wasteland through irrigation is not an isolated event in world history.

In fact, the economy or culture based on an irrigated agriculture which has survived over a few hundred years is the exception rather than the rule.

Why? Because man has generally held to the “water is water” theory for irrigation purposes. He has consistently ignored many important water quality considerations.

Irrigation experts today consider only rainwater to be absolutely safe for crops. All other water, in traveling through and over the surface of the earth, carries with it dissolved salts of the various minerals it comes in contact with.

When such water is applied to a crop, most of the moisture leaves the soil either through absorption by the crop or through evaporation. But the mineral salts remain in the soil.

As long as there is sufficient drainage to carry the salts down into the ground below the root zone, it is not likely that crops will be affected. But without suf-

ficient drainage, there will undoubtedly be a soil deteriorating salt buildup.

Could the fate of Mesopotamia be in store for millions of U.S. acres now under irrigation? Yes, say ERS researchers. Some irrigated land in various parts of the country already has been taken out of production because of excessive salinity.

An experience in California's Imperial Irrigation District, which eventually ended favorably, provides an example.

This area, which receives all its irrigation water from the Colorado River, grew rapidly in number of irrigated acres from 1900 through the 1920's.

But by then symptoms of waterlogging and salting-up began to appear. In the 1930's the problem was serious.

Soil Conservation Service engineers recommended extensive field tiling and a broad network of collection ditches to drain away saline water.

But Depression Era farm prices prevented farmers from making the large capital investments necessary. Some 50,000 acres with poor natural drainage were forced out of production.

These lands began to revert to desert.

During the decade of the 1940's, however, agricultural incomes improved. Farmers became more willing to invest in drainage, both individually and collectively. And by 1966, almost 13,000 miles of tile drains had been installed, covering over 300,000 acres in the district.

The district also dug over 1,400 miles of open ditch drains to carry the outflow from the tile drains to the New and Alamo Rivers which in turn flow into the Salton Sea.

Had the Depression of the 1930's continued another 10 years and these improvements in irrigation and drainage not been made, this area in California might now be called Mesopotamia West. (1)

Farmland Value Is Valid Factor In Figuring Flood Control Benefits

After a winter of heavy snows, a sudden thaw melts the accumulated ice and drifts.

Spring rains pour down and turn already swollen streams into roaring rapids.

Rapids flow into rivers. And their muddy waters overflow the banks onto the flood plains of the Midwest, often causing millions of dollars worth of damage.

One answer to this is flood control, but it is expensive and often far from perfect.

Are the expected flood control benefits worth the projected expense? What would those benefits amount to in terms of actual dollars and cents in the pockets of farmers, businessmen and others living and working in the flood plain?

The USDA's Economic Research Service in cooperation with the U.S. Army's Corps of Engineers set about to see if they could improve on current estimates of flood control benefits to farmers in three flood plain areas in the Wabash River Basin. The Wabash River Basin covers parts of Illinois, Indiana, and Ohio.

Researchers found that farmers can expect flood damages from several sources.

First there are damages to the physical assets of the farm. These may include bank cutting, erosion, and deposits of sand and debris, as well as damages to buildings, ditches, fences, machinery and equipment, stored crops and livestock.

The cost of these physical damages is usually calculated on the basis of the cost to restore the area to normal (repair or replacement costs minus the cost of normal depreciation) or on the basis of comparative market or sales values of the materials destroyed or damaged.

But for many farmers the greatest loss from spring and

summer floods are damages to crops in the field.

The cost of these damages is best calculated by using income estimation.

This procedure combines the direct income loss of the farmer—the additional time and money he spends on the crops both before and after the flood—with any indirect loss of additional income that he could realize from more valuable uses of the land in the absence of the flood risk.

Although the concept is straightforward, the actual estimation of income losses involves several steps and can become very complicated.

The damages vary according to the type of crop, the location of the crop on the flood plain, the time of year, the depth and duration of the flood, and the probability of a flood of a given magnitude.

The researchers wanted to know if these damages could be estimated more directly by comparing the market value of farms subject to flooding with the market value of other farms out of the flood path.

Researchers assumed that those farmers most familiar with the flood hazard have already taken the expected losses from flooding into account when they buy and sell flood plain farms.

Whether or not land values provide a good estimate of expected flood losses depends on a number of factors.

For example, some people may underestimate the flood hazard and thus overprice the flood plain land.

In other cases, the turnover rate of land sales may be too low to establish an accurate market value for the flood plain tracts.

The areas of the study covered a wide range of types of land and flooding conditions. The market value of farmland was not always consistent with the estimated flood risks.

However, the study found that

in areas where flood losses occur with a high degree of regularity—and where the land likely to go under water is clearly defined—land values do provide a useful indication of the expected benefits of flood control to flood plain farmers.

In a followup study, another technique for measuring expected flood control benefits was evaluated. This technique uses a regional linear programming model that the Economic Research Service has developed for river basin planning.

In contrast to the land value technique, which seeks to determine the worth of flood control to landowners directly affected by flooding, the linear programming model helps evaluate the impact of the flood control on the entire agricultural economy of the region.

By evaluating results of both the land value and linear programming models, researchers can better determine the total effect of a water resource development project on a region's economy. (2)

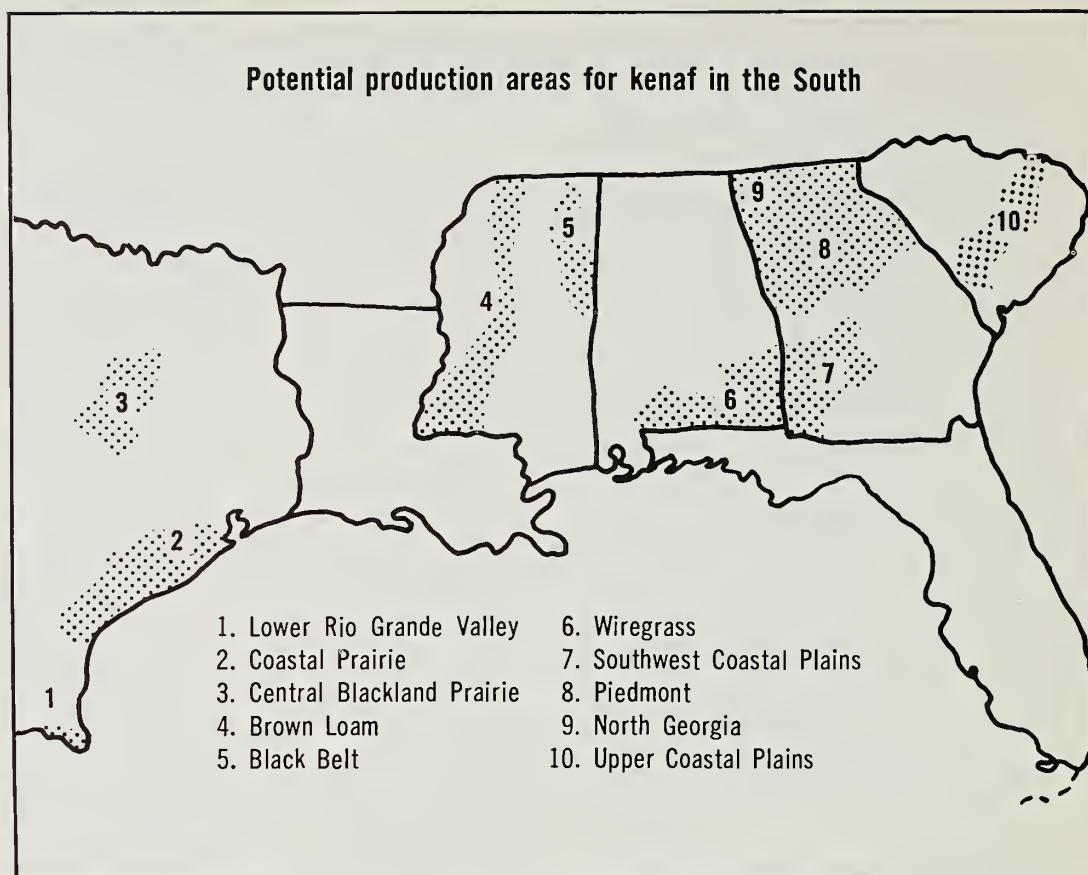
Is Space Available for Kenaf As Alternate for Pulpwood in Paper?

Our mountainous pile of paper and paper products is higher than ever, with no peak in sight. And more and more trees from the South's pine forests are being felled for pulpwood to feed the paper mills.

This continuing situation has sustained the paper industry's interest in kenaf as an alternative raw material for papermaking.

Kenaf is a member of the hibiscus family. Suited to many areas of the South, it matures fast.

Studies over many years by USDA scientists and economists have substantiated the suitability and economic feasibility of producing kenaf for papermaking (see Farm Index, March 1968).



Commercial production would probably entail the purchase of some special harvesting and pulping equipment. But in many cases, present equipment could be converted.

Now, the question is: How much cropland could be used for this fiber?

Will kenaf have to compete with cotton, corn, and other established crops for use of cropland? Or, can kenaf be incorporated into farm plans as a complementary or supplementary crop that will not compete directly with the crops that farmers have traditionally relied on for their living?

The future use or nonuse of present cropland in the seven-State area will depend mainly on domestic and export needs of seven major crops, and on government policies affecting them.

The seven crops are cotton, soybeans, corn, oats, barley, grain sorghum, and wheat.

To estimate potential acreage in 1980 that might be "left over" from these crops and used for kenaf, ERS analysts used data from a previous research project that projected regional resource

requirements for seven different Federal agricultural policy situations.

Under one projected situation—free markets and maximum levels of export in 1980—there would be no room at all for kenaf plantings in the potential kenaf production areas under study. This seems unlikely, however, considering our past and present experiences.

At the other extreme—with acreage quotas, commercial exports exclusively, and no government subsidy on exports in 1980—close to 17 million acres of cropland would be unused and thus available for kenaf. About half of it would be in Texas.

Under the other possible policy situations, unused cropland would range from 10 million to 14 million acres.

In all but the first projected situation, the amount of cropland that might be devoted to kenaf as a commercial farm crop would vary considerably from State to State covered in the analysis. In reality, the acreage available in these areas—2.3 to 2.6 million acres—is indicated in map above.

Whether kenaf is grown on this acreage will largely depend on two things: The extent that kenaf is needed to supplement raw materials for pulping, and growers' access to off-farm capital to launch the crop.

As for demand, wood pulp requirements by 1980 are expected to rise to 52.4 million tons (including 4 percent in imports). They now run about 40 million tons. The South contributes over 60 percent of these supplies. These figures appear to favor introduction of new papermaking raw materials.

Capital inputs to produce a ton of kenaf are estimated at between \$3 to \$5 for farmers that do not at present own any handling and harvesting equipment suitable for kenaf production. For those who have suitable machinery not fully utilized, the cost might be somewhat lower.

In either case, some farmers will probably be reluctant to go into kenaf without an off-farm source of capital and some guarantee of a market and adequate returns.

A contractual scheme—whereby processors would rent harvesting and hauling equipment to growers and buy their output—might make southern farmers more receptive to the idea of a new crop. (3)

Milk Cow Tally Down in Southeast; Offset by Increase in Beef Cows

Though there has been a downturn in the Southeast's number of milk cows during recent years, the decline has been more than offset by an increase in the number of beef cows.

Beef cows and heifers 2 years old or older increased from about 6.0 million on January 1, 1960 to 8.8 million head at the beginning of 1969. The 12 southeastern States include the Appalachian, Southeast, and Delta regions.

Hairy Vetch for Bald Spots?

Growing hairy vetch isn't everybody's thing. But those who produce it have a prolific crop this year.

Despite a 3-percent shaving of acreage from last year, the 1970 harvest of seed from the hairy vetch cover crop is estimated at more than 11 million pounds—up 15 percent from 1969 and 22 percent above 1968's harvest.

Average yield on the 52,800 acres planted for seed is estimated at 209 pounds per acre. This is 31 pounds more than last year.

Hairy vetch is an old reliable cover crop—the most widely grown and hardiest of the many vetches in the legume family. It gets its name from its pubescent stem. When the thick fuzz on the stem is dry, the quick-to-shatter plants are ready to harvest for seed.

The crop is especially useful today as a soil conditioner for land that acreage controls take out of crop production. It also acts as an erosion controller.

About 20 years ago, farmers favored the legume as a green manure crop, plowing it under to add nitrogen to soil. Production of the seed peaked at 69 million pounds in 1952. But with sharply rising use of chemical fertilizers, output of hairy vetch has been trimmed.

Texas is the leading producer of the seed, with about 4.8 million pounds this year. Oregon follows at 2.6 million. Oklahoma, Nebraska, and Arkansas are the only other States with significant output. (6)

During the decade, the number of milk cows and heifers 2 years and over dropped from 3.7 million to 2.4 million in the 12 states.

Further increases in beef cows, to about 9.3 million head, are anticipated by 1975.

On January 1, 1969 the Southeast accounted for nearly one-fourth of the national inventory of beef cows and heifers 2 years and older. In 1960, the area's share was about 23 percent.

Most of the cattle feeding enterprises in the area are relatively

small. In 1968 only Florida was estimated to have had 25 feeding operations with capacities of 500 head or more.

The types of cattle started on feed—and the feeding plans and rations used in the area—vary so widely that it's difficult to identify typical systems.

Among commercial feedlot operators, the most apparent method is the use of relatively lightweight yearling feeder cattle that are fed a high-concentrate ration throughout the feeding period.

Among the smaller farmer-feeders in the Southeast, local auctions are the most popular market outlet for fed cattle. The larger feedlots favor direct selling to packers.

Some expansion in cattle feeding by farmers is expected. However, it will probably be in conjunction with increased use of pasture and silage. (4)

Live Turkey Prices Might Slip Lower In Holiday Season Ahead

The last 4 months of the year are crucial ones for turkey producers, for it's then that over 60 percent of the annual turkey crop hits the market.

Holiday season 1970 may not be as good as last year's from the standpoint of live turkey prices. Current estimates call for a 4-5 percent increase in September-December marketings over the year-earlier level. Assuming live marketing weights stay the same, producers can expect moderately lower prices than the 23 cents-per-pound average received in September-December '69.

In addition to more turkey, prices will be feeling the pressure of a substantial increase in this year's supply of pork—a formidable competitor with turkey meat for the holiday trade.

Overall production of turkeys in 1970 is projected at 115 million birds, 8 percent above '69. (5)

ERS Analysts Expect Feed Grain Use To Rise One-Third by 1980

Total use of U.S. feed grains will continue to mushroom in the decade ahead as livestock output goes up with the ever-growing demand for meat products.

A recent ERS projection puts total feed grain requirements at 240 million tons by 1980—one third higher than the annual consumption in the 1965-69 period. Domestic use would then be 205 million tons, against 146 million in 1965-69. This would leave a balance for the export market of about 35 million tons, compared with under 22 million in the late 1960's.

Of total feed grain use in 1965-69, the bulk (78 percent) was for livestock feed. Food, seed, and industrial uses accounted for another 9 percent, and exports the remaining 13 percent.

Food and industrial uses during the next 10 years will probably increase at the same rate as population.

Grain consumption by livestock, on the other hand, is expected to accelerate somewhat faster than population, reflecting a rising per capita consumption of livestock and livestock products and some increase in the quantity of feed fed per livestock production unit. The increase in the feeding rate, however, is expected to be at a slower pace than during the past 15 years.

Greatest production increases are in prospect for beef and poultry. Output of fed cattle, broilers, and turkeys are all projected around 50 percent larger by 1980 than in 1967-69.

Hog production is expected to climb roughly in line with the population increase.

The projections for the 1970's assume (1) livestock production in foreign countries will also continue to grow, and (2) U.S. feed grain prices will remain competitive.

Japan and Western Europe will probably continue to be the major overseas markets. But at the same time, developing countries in Asia, Africa, and Central America will become more important importers than in the 1960's.

All told, U.S. feed grain exports are expected to trend upward over the coming decade; an increase of 58 percent is projected from the 22 million tons in 1965-69. (7)

Increasing Amount of Rye Crop Goes for Feed; Other Uses Fall

Rye production and supply are on the upswing, but overall demand for this grain is diminishing. The only major exception is the use of rye for livestock feeding.

Current estimates place the 1970 rye crop at around 36 million bushels—a 14-percent jump over last year. Production is up in all rye producing areas, except the South Atlantic region.

Harvested area this crop year is expected to equal 1.4 million acres, a 7-percent increase from 1969. Yield per acre is up too—a record 25 bushels.

In South Dakota, the leading rye producer, harvested acreage will be down slightly from 1969. Nevertheless, sharp rises in yield per acre are expected to result in an increase in production.

The 1970/71 crop year, which began last July 1, opened with a carryover of over 21 million bushels, or 33 percent above the beginning stocks in 1969/70.

The large carryover, coupled with the 1970 crop increase, will result in a total supply of over 58 million bushels—the largest since World War II.

Even though some of this rye will be exported, world demand is declining. U.S. rye exports in the 1969/70 crop year totaled 500,000 bushels, the lowest level since the early 1950's.

In this country, rye has been used increasingly for livestock feeding (10 million bushels in 1969/70 versus about 7 million in 1967/68). This has accounted for a slight rise in total disappearance. Other important domestic uses, however, have decreased.

The use of rye for food products rose to a high of nearly 6 million bushels in 1967/68, but has fallen off the past 2 years.

Industrial use of rye—now entirely for alcoholic beverage—fell in 1969/70 to 4.4 million bushels from 4.7 million.

The imbalance in the supply and demand situation is being felt by rye producers in the form of weaker prices. The farm quotation averaged 99 cents per bushel during 1969/70, or 3 cents below the farm price a year earlier. (8)

Fifty Percent of U.S. Broilers Come From the Southeast Region

When it comes to broiler production, the Southeast far outpaces all other regions—accounting for about half the Nation's output.

Georgia was the top broiler State in 1969 (16 percent of total U.S. production). Arkansas ran a close second, with 15 percent and moving up rapidly.

Most broilers are raised under contract. In general the contracting firms provide feed, chicks, sanitation and medical supplies, and are responsible for marketing the broilers. Producers provide housing, equipment, fuel, litter, and electricity, and are responsible for day-to-day production tasks.

How much money did Georgia's broiler producers make? The 1969 net return to operator, family labor, management, and capital averaged \$2,180 per farm. Though this is a record for these small farms, it represents returns for less than full-time employment. (9)

Rural America: Avenues to Progress

Determined to get ahead, the citizens of Smalltown, rural America, can turn to diverse sources for help—from the local courthouse on up to the Federal government.

The citizens of Smalltown, rural America, are determined to get into the mainstream of economic progress. They want to develop more jobs for more people. They also want to upgrade their community services.

But how do they go about it? And if they need help in this effort—as they probably will—to whom can they turn for counsel in planning and for other forms of assistance?

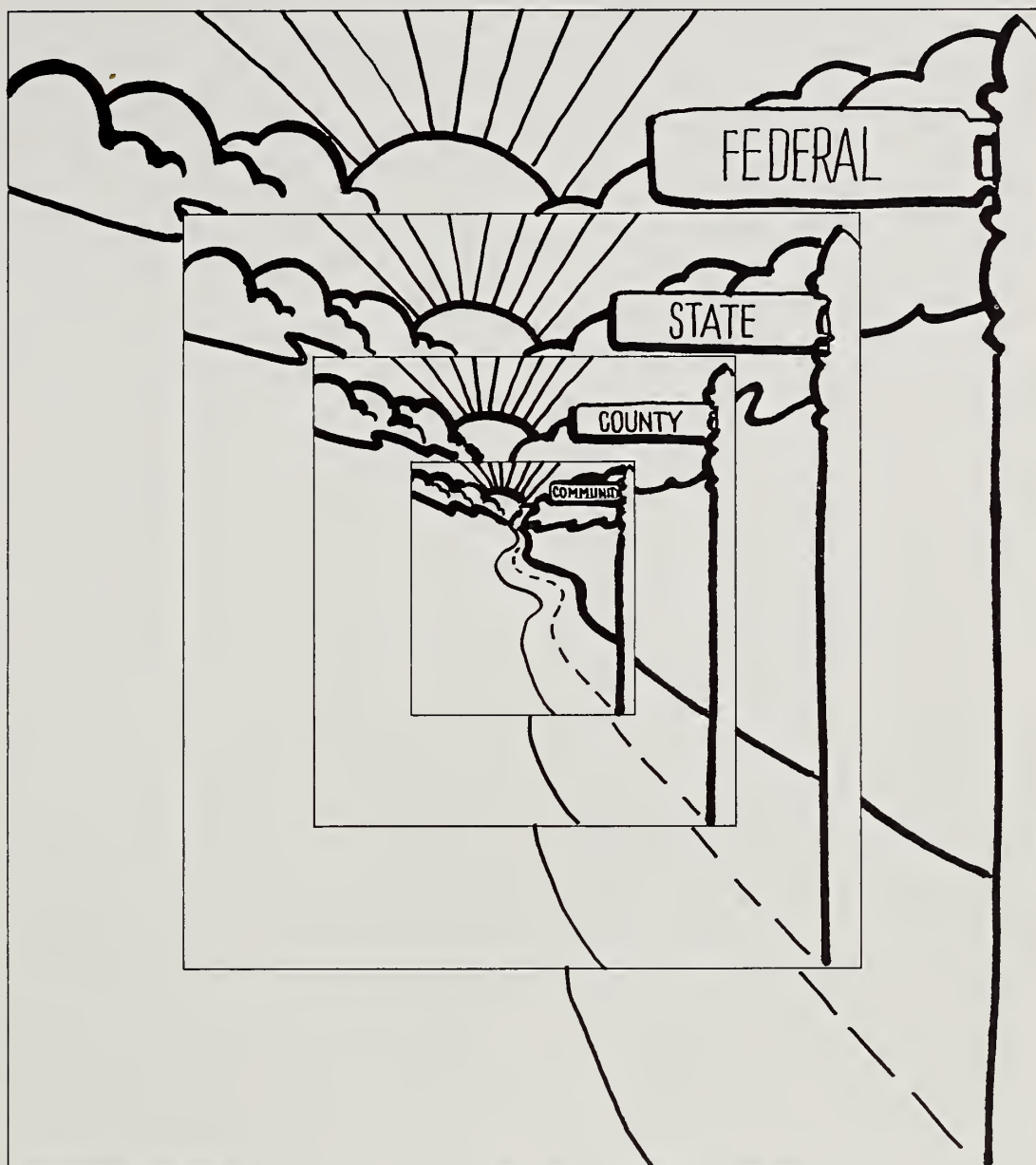
Whether the goal is attracting new business or bettering community facilities, the project typically begins with a meeting of interested groups—including the residents, leaders in business, education and health, agriculture, and representatives of labor and civic organizations.

Among the topics on the agenda: the specific objectives of the project; type of industry, business or public facilities desired; the area's physical and financial assets—and its liabilities; and costs and benefits that can be expected in alternative situations (e.g., a large plant versus several diversified businesses).

Suppose Smalltown decides to concentrate on improving public services, and to give first priority to a health center.

After considering the costs and potential benefits, Smalltown figures it would be advantageous to build an all-purpose health facility—to serve a wide area—in cooperation with nearby towns.

Smalltown's citizens' committee starts by drawing up a tentative proposal in consultation with local doctors, nurses, pharmacists, and the county medical



society. The committee then arranges meetings with leaders in neighboring towns.

The other towns agree to combine their resources to get the much needed health center. But where should it be located and exactly what services should it offer?

Those questions would best be answered by making a survey. Data would be compiled on land costs, roads and transportation facilities, costs of the building, zoning regulations, availability of medical personnel, and so forth.

(If this, instead, were a project to attract new industry, the survey might gather information

on labor supply, land and buildings, zoning laws, credit resources, water and sewage systems, power supply, housing and public services—all of the things industry representatives would need to know in choosing new sites for expansion.)

The communities aren't quite sure how to conduct the survey, so they seek the help and expertise of county and State planning and development offices. In many States—half the States as of late 1969—there is an Office of Local Affairs to provide planning assistance at the local level.

And in every county, the Extension Service agent and other

USDA people are able to provide specialized technical assistance and information on State and Federal agencies, as well as private organizations, that can offer planning advice. County officials may in turn draw on planners and health experts in the State Office of Planning or Program Development. All States have such offices, carrying a variety of titles.

The Department of Agriculture, through the Extension Service and its other agencies has representatives at the State level—members of the State USDA Committee for Rural Development. These officials, representing both State and Federal resources, can help develop plans for local projects, prepare applications for assistance of various kinds, and call on appropriate agencies for advice and help.

What Federal programs do county and State planning and development officials turn to in seeking assistance for local areas?

Depending on the type of project and the kind of help required, the road may lead in one or several directions. In the Department of Agriculture alone, there are a number of programs to facilitate rural development.

Through the State USDA Committees for Rural Development, local areas may tap the resources of the Farmers Home Administration, Rural Electrification Administration, Farmer Cooperative Service, Soil Conservation Service, and the Forest Service, as well as the Land Grant College system and Agricultural Experiment Stations.

All these USDA agency efforts are coordinated at the national level by a USDA Rural Development Committee under the direction of the Assistant Secretary for Rural Development and Conservation.

In addition to USDA, the Federal government has special programs in nearly every agency. In the Department of Commerce

for example, are the Economic Development Administration (EDA), which provides financial and technical assistance to areas of unemployment and low income, and the Small Business Administration, which administers loans and technical assistance for small business ventures.

The Department of Labor operates a Smaller Communities Program, through its State Employment Service acting as a catalyst between rural areas and industry. The Department also administers the Manpower Development and Training Act to upgrade the skills of the labor force by providing testing, counseling, training and job placement assistance for unemployed and underemployed persons.

And under the Housing and Urban Development Act of 1968, "701" planning grants may be authorized for small towns, counties, Indian reservations, and regional planning agencies, to carry out basic planning programs.

Multistate regional Commissions represent another mechanism for promoting economic development.

At the national level, such groups as the National Association of Counties, the National Governors' Conference, and the Domestic Affairs Council in the White House formulate policy positions for economic and social development.

Private associations assisting development efforts at local and State levels are chambers of commerce, boards of trade, labor organizations, cooperatives, and civic groups of various kinds. A number of States have also passed enabling legislation to permit development corporations to be established to handle funds.

Many States have multicounty planning districts. These districts help to stretch local resources by combining personnel and finances for mutually advantageous projects in an area of two

or more counties.

In Ohio, for example, nine counties joined forces to form a Regional Development District to qualify for funds from the Economic Development Administration. Two of the counties had qualified as redevelopment areas, due to high unemployment and low family income. By establishing the District program, pooling resources and talents of all nine counties, the area gained approval of a \$36,000 planning grant to try to solve area-wide economic problems and create jobs in the economically lagging areas.

In Kentucky, the efforts of the 10-county Barren River Development District have reversed the out-migration of the 1950's; added industry and new jobs to the economy; expanded educational facilities; and solved critical water and sewage problems—all with the help of various Federal agencies.

In Summerville, South Carolina, a new brick factory was established with an Area Redevelopment Administration (ARA) loan of \$170,000 and supplemented by \$139,000 of company and local funds. Less than 5 years after the factory began operating, a \$250,000 addition was made to the plant. And the ARA loan was repaid in full.

The impact of this new industry was felt in three counties in addition to Dorchester county where the plant was located. Through a later merger, expansion of payroll, spinoffs of related service industries, and diversification of operations—the combined enterprise has disbursed nearly \$750,000 in payrolls. It has also purchased almost \$2-million worth of supplies and services, mostly through local distributors. Besides these tangible benefits, the skills of the local labor force have been upgraded and the means for full-time employment has been provided.

Another kind of rural development effort is oriented toward

people and natural resources. Resource Conservation and Development projects (RC and D), carried out under the leadership of USDA's Soil Conservation Service, are started by local people, run by local people (sponsors), and assisted by Federal, State, and local bodies.

For example, let's look at a RC and D project of Cherokee Hills, Oklahoma. A three-county area in northeast Oklahoma (Adair, Cherokee, and Delaware—largest town, 5,700 population) decided it needed better recreational facilities, roads, and housing—and, even more important, training and employment opportunities for area people, especially the youth.

After appraising local resources and following up with proper procedures for assistance from Federal and State agencies, leaders of the Cherokee Hills project helped communities develop a cultural center, acquire a new poultry plant, install a new sewer, and set up the Sequoyah industrial park.

Cooperation in this project came from the Departments of Agriculture, Interior, and Health, Education and Welfare, as well as the Manpower Administration in the Department of Labor. Income in the area has already increased and is expected to continue to grow.

It takes some lead time for two or more counties to get an RC and D project. Briefly the steps are:

✓ A local group is the legal project sponsor (conservation districts, county governing bodies, towns, local or State agencies, or public development corporations).

✓ The sponsor makes an inventory of resources and prepares an application for assistance, with help from State and/or Federal representatives of the Soil Conservation Service.

✓ Approval of application is sought at State and USDA levels.

✓ If the application is approved, a project coordinator is named by the Soil Conservation

Service to assist sponsors in developing a plan of action.

✓ The plan is reviewed by State and by USDA and congressional committees for operational authorization.

✓ With operations assistance authorized by the Secretary of Agriculture, sponsors set priorities and enlist cooperation from all groups that can help (State, Federal, public and private). The sponsors usually function through a steering or executive committee who advise and screen requests from local interests.

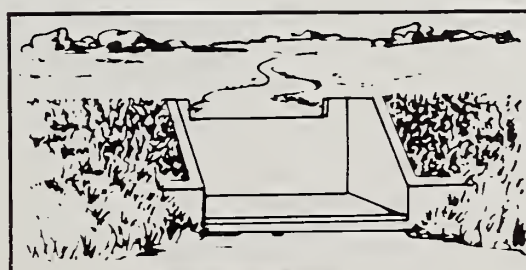
The project is now ready to go.

Funds to finance these projects come from both public and private sources. RC and D funds for authorized project measures are for technical and financial assistance from the Soil Conservation Service (SCS). Loans may be obtained from the Farmers Home Administration. Eligible measures include flood prevention, recreation, fish and wildlife preservation, erosion and sediment control, and irrigation and drainage.

Groups interested in RC and D projects should contact the local soil and water conservation district or the local SCS representative, usually at the county seat.

If Smalltown really wants to move ahead, there are many avenues of help its citizens can travel. They can join together . . . make their needs known . . . and get the job done. Assistance is there—in the county courthouse, in the Governor's office, and in the Federal government. (10)

[This is the last in a special series of four articles about rural America. The complete set may be obtained by writing the Editor of the Farm Index.]



Who Pays for the Water? All Gain in Federal-Local Cost Split

Groups of farmers and local businessmen who want to make better use of their water resources can turn to a number of Federal agencies for financial help.

In some cases the shares that various Federal agencies will pay for the same or similar type projects vary widely.

Flood control projects, among others, were examined recently by Economic Research Service analysts.

Almost 60 percent of the Soil Conservation Service projects and over 40 percent of the Army Corps of Engineers projects authorized between 1966 and 1968 were found to require local cost shares of 10 percent or more.

But no local cost sharing at all was required by the Bureau of Reclamation for any of its flood control projects during the period.

Cost-share rates are established by law and must be followed for a specific project.

Through hearings and discussions, however, local groups do have an opportunity to discuss the project with the various agencies, and to bargain on the size of a given project, the methods to be used to build it, and the Federal share of funds.

And if they decide their share of the expenses, as determined by law, is more than they want to pay, they can, in effect, veto the project.

The ERS analysis indicated that changes in cost-sharing rules would result in more efficient use of Federal funds. Such changes would include more uniformity in cost-sharing practices among the different Federal agencies.

For example, a standard share of costs of certain types of developments, such as flood protection and water quality control could be borne by the Federal government, regardless of which agency

sponsors the project.

Other developments might be paid for and maintained by the agency, with the ultimate cost transferred to the consumer or user.

The costs of re-channeling a river, for example, now largely borne without recompense by the Corps of Engineers, might be partly defrayed by the Corps' charging owners of boats a fee for using the channel.

And hunters, fishermen, and campers might also be individually charged for their use of recreational sites or fish and wildlife areas created or under the control of a water resource development agency. (11)

Rural Health/Education Services Always Vital, Often Inadequate

Two significant types of institutions that serve rural areas are those concerned with education and health.

In many rural areas of the United States, however, these services are grossly deficient. And the situation usually worsens as rurality and poverty increase.

Areas of high poverty concentration are unable to attract qualified teachers. They lack tax revenues necessary to construct, staff, and maintain modern, well-equipped schools.

A study by ERS a few years ago found that the operating expenditure per pupil in depressed rural areas was far lower than in other more affluent counties.

Partly for this reason, children in the so-called "pockets of poverty" seldom attain education that adequately equips them to perform effectively in our competitive society.

Rural residents often find their local health services lack facilities to treat chronic illnesses and specialized needs.

Hospitals are fewer and medical personnel scarcer. Isolated

Horseless Power

Ponder the impact of the automobile and the truck on rural lives and livelihoods.

The advent of the automobile shortly after 1900 spelled an end to the traditional isolation of life "in the country." Amenities of city life—schools, hospitals, shopping centers, and entertainment—were brought within reach of rural people.

By 1920, cars on farms numbered over 2 million; by 1965, over 3½ million—though the farm population had declined more than a third.

Meanwhile, motortrucks came along between 1913 and 1920 to change production and marketing methods for the better. Today there are more than 3 million trucks on fewer than 3 million U.S. farms. (12)

rural counties average 4 medical specialists per 100 hospital beds, compared with 34 per 100 in large metropolitan counties. And big cities have 43 more dentists per 100,000 population than isolated rural areas.

"Pockets of poverty" usually lack sufficient ambulance service so that residents of isolated areas are often unable to receive proper treatment in time.

Physical impairment and inferior education limit working ability and productivity, thus generating further dependence and perpetuating the cycle of poverty. (14)

Value of U.S. Farmland Makes Smallest Advance Since 1963

Farm real estate values climbed only moderately in the reporting year ended March 1, reflecting tight credit markets and uncertainties over future directions of farm programs.

Nationwide, the average value per acre of farm real estate edged up 4 percent. This was the smallest rate of annual advance since

1963, according to a recent ERS report.

The increase was considerably less, however, in the Corn Belt, Northern Plains, and Pacific regions. There the value rose only 1 percent. These were also the regions that appeared to be hardest hit by tight credit and uncertainties about pending legislation affecting farm programs.

The sharpest gain (11 percent) was recorded in the Northeast region, where nonfarm factors heavily influence the price of farmland. In the Southeast and Delta regions, prices moved upward but at a somewhat reduced rate from that reported in March 1969. Other regions had advances of 4 to 5 percent.

Average value per acre came to \$193 for the Nation as a whole—\$6 above the 1968/69 level.

Averages for individual States ranged widely, depending in large part on the productivity of the land for agriculture and on possibilities for nonagricultural uses. For example, New Jersey's per acre value, at \$1,028, was the highest in the 48 contiguous States. Wyoming's was the lowest, only \$36.

Over the last decade, land values rose fastest in Georgia: an increase of 189 percent from the 1957-59 base.

The value of farm buildings, dwellings, and improvements averaged \$78,900 per farm, up \$4,600.

Fewer people were in the market for farmland in March 1970 than a year earlier. Nationally, 40 percent of the farm real estate reporters said inquiries had fallen off. The major areas of slackened demand were the wheat and cotton areas, though all areas—with the exception of the Northeast—reported weaker demand this year.

Compared to previous surveys, a larger proportion of the real estate reporters believed prices would either remain stable or decline during the year ahead. (13)

Big as they may be, in size and horsepower, farm machinery and equipment are becoming only one parcel in a mixed bag of products sold by maxi-interest businesses.

Industrial diversification and the growth of conglomerates has become a familiar form of business life. The farm machinery and equipment industry poses no exception to the trend.

During the 1954-66 period, the farm equipment industry underwent many structural changes which were the result of diversification and the rise of large multi-industry corporations.

Firms outside the industry absorbed manufacturing facilities in the farm equipment industry. And some large firms in the farm machinery and equipment industry acquired facilities outside

their industry.

As a result, today's farmer shouldn't be surprised if he discovers that the same company that made his shiny new tractor also manufactured news print for his Sunday paper, or a vital component for the recent "moon shots".

In most manufacturing industries, establishments (single plants or factories) have become fewer in number, larger in size, and less specialized. The farm machinery and equipment industry, however, has varied in several ways from this customary growth pattern.

An Economic Research Service study points out that between 1958 and 1963, the number of establishments producing farm equipment increased by 6.7 percent. But unlike most other industries, the growth was entirely in

plants and factories having under 100 employees.

The rise in number of small plants indicates a large degree of specialization, and particularly specialty rather than full line equipment plants. They produce blowers, brooders, hand sprayers, and animal hair clippers rather than combines, tractors and cultivators.

The many small establishments that have entered the farm machinery and equipment industry may find it advantageous to join other firms. If they become larger, they may obtain enough funds for research and development, advertising, and other expenditures.

Many of these small manufacturing concerns probably have been or will be absorbed into multiunit corporations already in farm equipment production that have holdings in any number of



other industries. The others will be absorbed by firms wishing to enter the farm machinery industry for the first time.

In the study period, farm equipment establishments had increases in total payroll, value of shipments, and new capital expenditures. And they increased their productivity.

But the larger establishments—those with over 500 employees—failed to keep pace with the average growth rate of the entire farm machinery and equipment industry.

In contrast with other industries, the large farm equipment establishments actually declined in number—by 4.7 percent from 1958 to 1963. Manufacturers apparently concluded that the best operating economies were achieved below the 500-employee level.

Changes occurring in the number, size, and specialization of single plants and factories were interrelated with alterations in large multiunit companies (those that control several manufacturing establishments).

Multiunit companies owning plants and factories engaged only in farm equipment manufacturing, declined in number.

Big gains were registered by corporations controlling many establishments that produce items for several different industries.

By 1963, these multiunit, multi-industry companies rose 9.3 percent over the 1958 level, and their farm machinery and equipment establishments increased by 33.6 percent.

This kind of diversification suggests that the large controlling companies will depend less and less on farm machinery and equipment sales as a share of *total company profits*.

For this reason, managers of farm machinery and equipment segments of multi-industry companies will probably face stiff competition from managers of other industry divisions for a part of company budgets. (15)

Handle With Care

If Humpty Dumpty hadn't been such a big egg, all the King's horses and men might not have had to put him together again.

Extra large and jumbo size eggs appear to crack more easily than smaller sizes, according to a recent field study of commercial egg handling from farm to processing plant.

Since this high "mortality" rate from extra large and jumbo size eggs tends to cut down profits, egg producers would be better off if they exercised particular care in handling these eggs.

Meanwhile, egg scientists and economists have narrowed down the reasons for the cracking phenomenon to a set of major possibilities: physical differences among eggs of various sizes; seasonal frailties; over-handling of extra large and jumbo eggs; unsuitable packing and handling equipment for the top sizes of eggs; and wide differences in the care exercised in egg handling by individual producers. (16)

Okra, Squash, Dry Bean Growers Look Into Canning Possibilities

Okra, squash, and dry beans are not the Nation's top sellers in the vegetable section. Yet they are highly important to individual producers in several southern States.

And as consumer demand is steadily shifting from fresh to processed food products, growers of these three vegetables are looking for outlets other than the fresh market.

Would it pay them to open a cannery?

How profitable a processing enterprise is, depends largely on the rate of output and the length of the canning season. Usually, if the rate of output is high, investment could be profitable with a shorter length of season—and vice versa.

These are the conclusions drawn from a study made jointly by the Economic Research Serv-

ice and eleven southern Agricultural Experiment Stations.

To make money with a capacity as small as 100 cases per hour and a 500-hour operating season, an okra canner would have to be able to buy the raw product at \$60 per ton and get \$4 per case for the finished products.

With a selling price of no less than \$3.50 per case of 24/303 can-equivalents, he could make a profit with an output of 400 cases per hour and a 500-hour canning season—or by operating only 300 hours with an output of 800 cases per hour.

Dry bean processors could make a profit with a plant turnout of 400 cases per hour over a 500-hour operating season—but only at a finished product price of at least \$3.50 per case. And at this price, plants with 1,200 and 1,500 cases per hour would be profitable with only a 300-hour season.

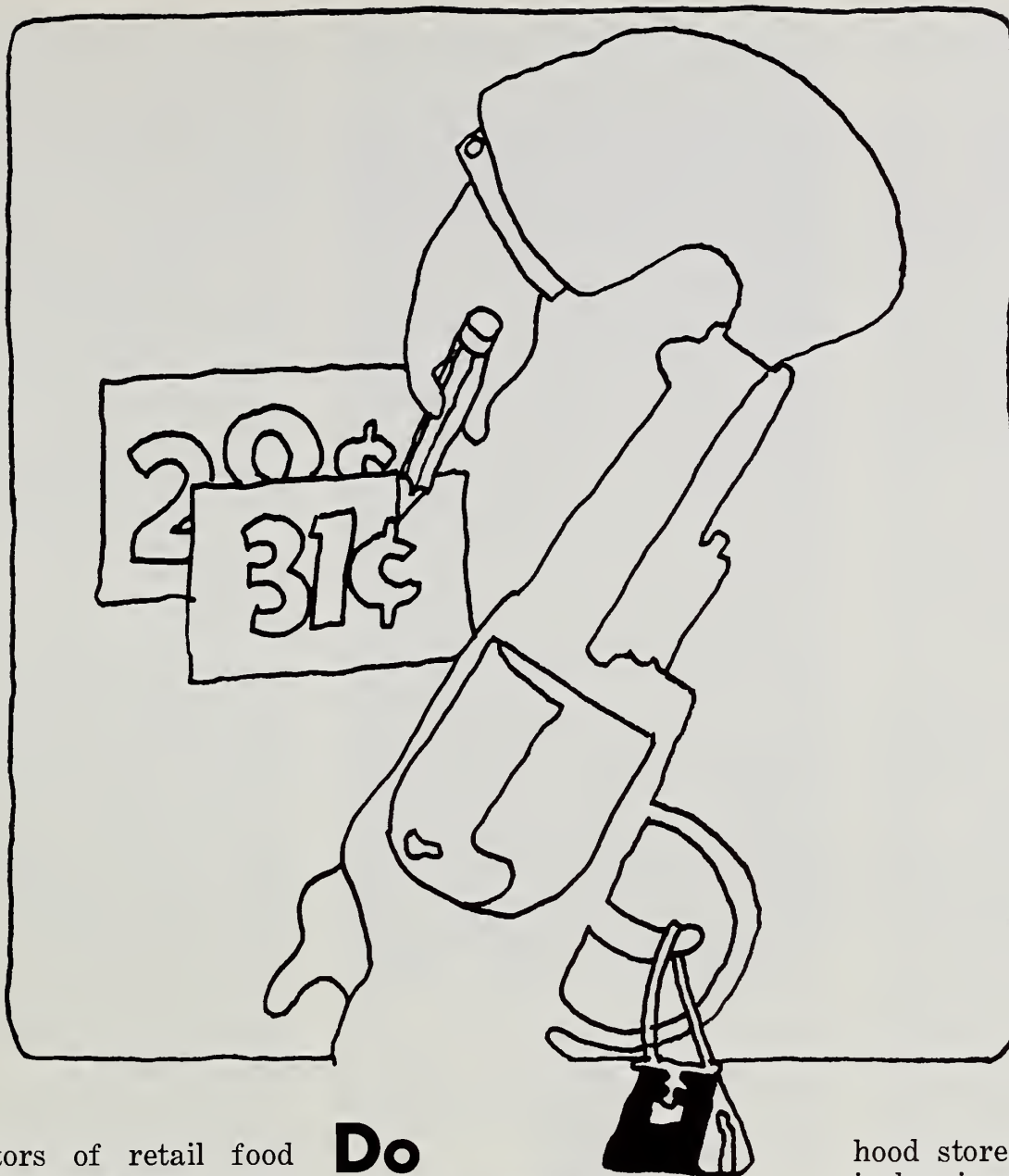
Squash processors cannot expect to make a profit with a 300-hour season unless the raw product price is no more than \$80 per ton, the finished product price is at least \$3.00, and output is 1,500 cases per hour.

However, finished product prices of \$3.50 and \$4.00 per case yield positive net yearly returns if the squash canning season is no less than 300 hours and output is 800 cases per hour.

Very favorable raw and finished product prices are necessary for profitable operations of these sizes of plants.

For all three products, it is more profitable to operate plants over the longest possible season. But the season's length and rate of output are not the only considerations for a prospective investor in a cannery.

Before tackling such a venture, he should size up availability of the raw product; line up sales outlets for his finished products; and also look into the possibility of stimulating enough consumer demand to keep his business going. (17)



Do operators of retail food stores in low income areas raise their prices after monthly welfare checks are issued?

Charges have been leveled in the affirmative.

Whether or not the allegations are valid is of primary concern to many Americans with less-than-adequate incomes.

The question also directly concerns the USDA, as most welfare recipients are automatically qualified to purchase food stamps. And the effectiveness of the Food Stamp Program in enhancing food purchasing power would be blunted if retail food markups coincided with issuance of welfare checks.

To determine if charges against the food store operators were valid, ERS conducted a survey of 261 stores—primarily neighbor-

Do Welfare Checks Trigger Food Markups?

Answer is "No," judging by a nationwide survey of low-income area stores the week before and the week after checks were received.

hood stores and supermarkets—in low income areas of Washington, D.C., Jackson (Miss.), Boston, Newark, Detroit, Cleveland, and Oakland.

The survey revealed no identifiable pattern of price increases after distribution of welfare checks.

"Shoppers" purchased identical items from each of the selected stores on two occasions—the week prior to and the week following the distribution of welfare checks.

Their grocery lists featured items most used by low income families, and contained rigid specifications regarding the preferred size and quantity.

For example, a can of green, cut beans was to be packed in a #303 can.

If an item purchased the first week was unavailable the second

week, it was reported as out of stock, as no substitutions were allowed.

During the first week of the survey, 4,374 purchases were made. But because 441 items were out of stock on the second trip, price comparisons were made on 3,933 items.

Of all items purchased, 14 percent either rose or dropped in price between the first and the second shopping trip. Several factors influenced these price variations:

Marked and unmarked items. Articles that were not individually price marked tended to change price more often than marked ones.

In supermarkets, 15 percent of the groceries purchased were not price marked, but they accounted for 25 percent of the price changes.

Nearly half of the purchases made in neighborhood stores were unmarked, and represented three-fourths of the price variations.

Specials. Although purchases were made early in each week to avoid weekend "specials," some special sales were encountered. They produced wide price variations. Meats—chicken, frankfurters, and ground beef—made up a large share of these "specials."

Seasonal and general price changes. A very typical seasonal fluctuation occurred during the survey period in Washington, D.C. when total grocery bills were affected by a seasonal decline in egg prices.

Between the first and second shopping trips in Detroit and Cleveland, there was an across-the-board increase of 1 cent for a quart of milk.

Cashiers' mistakes. Overlooked items and incorrect "breakage" (unit prices taken from multiple priced goods) were mistakes made at checkout counters in every city surveyed.

Errors in "breakage" were more than offset by items that cashiers failed to ring up. The re-

sult was a net undercharge for both weeks.

When the survey results were analyzed, the ERS shoppers and analysts could not trace any identifiable pattern of price increases after the distribution of welfare checks.

In only two stores, each in a different city — Cleveland and Newark — were there more price increases than could be attributed to chance variation.

In almost one-fourth of the 261 stores visited, the foods purchased in each cost the same both weeks.

Most of the remaining stores changed prices on one to three items between shopping trips.

Nearly half of the stores had changes of 5 cents or less, equally divided between increases and decreases.

In the end, however, although price increases held a slight edge, the net increase was under 0.1 percent for all stores. This amounted to less than a penny for every \$10—not much, considering that the "All U. S. Consumer Price Index for Food at Home" rose 3.6 percent during the survey period of April-August 1969. (18)

Consumers Rate Pros and Cons Of Crystallized Grapefruit Juice

About 400 homemakers in metropolitan Pittsburgh, Pa., participated in a survey designed to gauge consumer acceptance of instant grapefruit juice made from packets of crystallized grapefruit.

Almost half the households surveyed had used grapefruit juice at least once in the 6 months prior to the initial interview. Canned, ready-to-serve grapefruit juice was more widely used in these households than other forms.

Homemakers were asked to serve both a sweetened and unsweetened version of the test

product to household members 12 years or over. The first time they tasted each version, the household members recorded their reactions on forms provided by the interviewers.

Though the sweetened grapefruit juice was favored slightly over the unsweetened, about half the respondents found fault with the taste of each kind. Complaints ranged from "too sour" and "too bitter" to "isn't natural" and "leaves an aftertaste." In addition, some homemakers complained that the crystals were difficult to dissolve.

Among user households, the grapefruit juice they usually served was generally favored over the crystals for taste and ease of preparation. About 3 in 10 homemakers preferred the crystals.

When asked for comments on the packaging of the crystals, over half the homemakers said they were favorably impressed with the space-saving qualities of the small pouches of crystals.

Some also felt that the foil lining in each package helped to retain freshness.

The homemakers were asked questions concerning future intent to purchase the product if it became available in local stores, what price they would be willing to pay for the crystals, and in the case of user households, to what extent they would substitute the crystals for their usual form of grapefruit juice.

Their answers cannot be considered predictions of future sales, but they do indicate that the product was generally well received by about half the respondents. About a fourth said they definitely would not buy the grapefruit juice crystals.

The concept of instant grapefruit juice crystals as described to homemakers before testing the product was far better received than the product itself. Improving the flavor and solubility of the crystals might enhance their marketing potential. (19)

November 1970 . . .

U.S. soybeans are flowing into crushing plants in peak-of-the-season volume, highest in history.

Canadian longshoremen are loading rapeseed onto foreign-bound freighters.

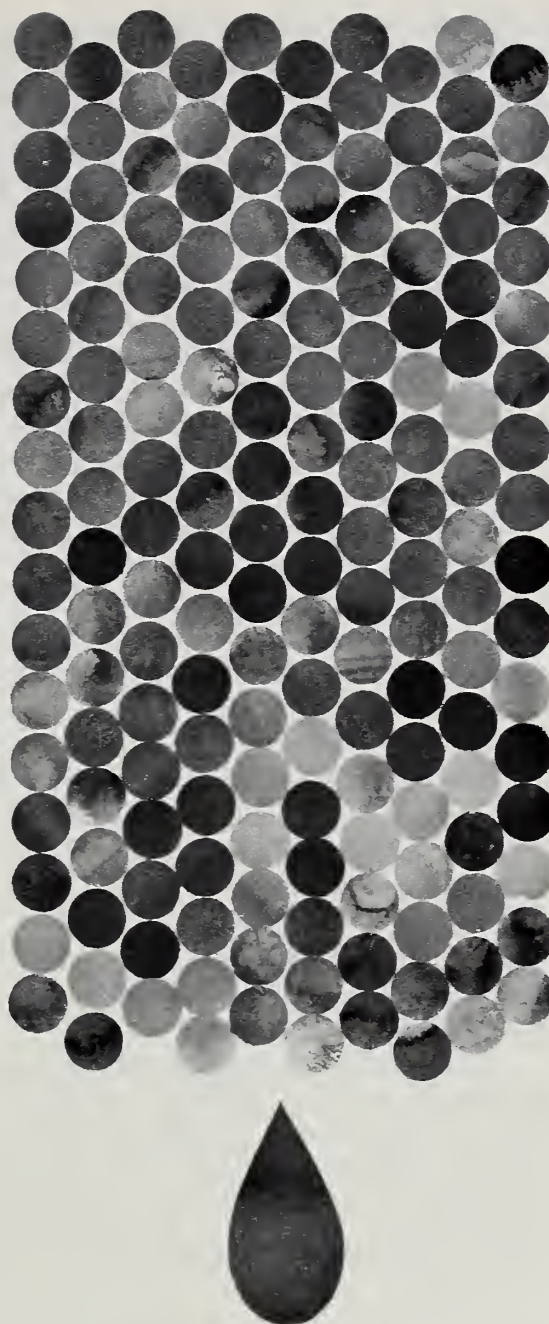
Thailand is gleaning its cotton, for seed as well as fiber.

Russian sunflowerseed is moving from the collectives into state processing plants.

In Nigeria and India, the peanut harvest is at its height.

And all through the tropical and semitropical world, the gathering of coconuts and palm kernels and olives continues in November as it does the year 'round.

These major oilseed crops, plus others of lesser importance, provide a seemingly insatiable world need for vegetable oils and oilseed meals. Not only are they one of the main agricultural commodity groups traded on the world market to feed both men and ani-



mals, but the volume traded has been increasing at a steady rate.

These gains are due in large part to rising incomes throughout most of the world—and to increasing population levels. No sharp reversal of this pattern is in sight. Thus, the uptrend in production and international trade of oilseeds and oilseed products is expected to continue.

How far and in what direction the oilseed business will expand depends considerably on the magnitude of the demand for oil in the less developed world and on the demand for oilcakes in the developed world.

In a study by ERS projecting supply and demand to 1980 for vegetable oils and for oilcake, three alternative situations were considered. For each alternative, a world price level was determined that would be needed to bring about supply and demand equilibrium under various levels of agricultural productivity and

The Oilseed Outlook 1980

economic growth for the less developed countries (LDC's).

According to the findings of the recent study, total world demand for oil by 1980 will increase to a level ranging between 63 percent (low economic growth) and 94 percent higher than the 1963-65 average. Assuming a continuation of present trends and policies, the increase would be 74 percent.

Although demand for oil is projected to increase in all areas of the world, over half the gain would be in the LDC's where demand is expected to double by 1980. The developed and Communist countries would account for the remainder in nearly equal proportions.

For oilcakes, total world demand is projected to rise between 61 and 78 percent, with a 67-percent gain associated with medium economic growth in the LDC's.

Although the greatest percentage increase is projected for the LDC's, three-fifths of the increase in world oilcake demand would be in the developed countries. The LDC's and Communist countries would share the remainder.

Certain broad conclusions of the ERS study are more evident than others. And so, given the projected world supply and demand conditions for oils and oilcake, let's turn over the calendar pages for a look ahead.

Circa 1980 . . .

In general, one potential increase in import demand for vegetable oils is in the LDC's.

On the other hand, the main markets for oilcakes will remain strong and will continue to be found almost exclusively in the developed, or industrialized, countries.

And specifically:

—World trade in oilseed products will continue to be highly competitive.

—Nutritional levels will improve.

—In LDC's that must import

vegetable oils, projected levels are contingent upon continued availability of sales under concessional terms.

—Since the LDC's include both importers and exporters, the probability of complete agreement among themselves on overall oilseed trade policies is unlikely. Lower world prices for oilseed products in 1980 would benefit importers but would adversely affect earnings of the exporting countries.

—With a continuation of recent supply and demand trends, 1980 world prices for vegetable oils would decline, while prices for oilcakes would continue at about the 1963-65 levels.

—If world supplies increase above the trend of the past decade, this would result in a further reduction of world prices for oil and some reduction in prices for oilcake. Despite this, the LDC's net export earnings would increase as a result of the increased earnings from oilcake.

—Assuming that the crushing capacity of the LDC's is sufficient to handle the increased output, many of these countries would be able to absorb the increased production of oil. (20)

USSR Grain Output Is Steered Toward Bigger Livestock Output

Grain and more grain.

This continues to be the central theme of the USSR's agricultural program—recently realigned for the next 5 years, 1971-75.

The big push for grain now is to provide feed for livestock—not just to maintain bread supplies for people, as was the case back in 1965 when the Soviets were buying wheat heavily on the world market.

The 1971-75 plan for Soviet agriculture calls for average annual grain production of 195 million tons, reaching 205 to 210 million tons by 1975.

Average grain harvests during 1966-69 were 32 million tons above the previous 5-year average level (Soviet official data without adjustment for excess moisture and waste).

Yet Communist officials point out that feed supplies have been inadequate for planned growth of livestock production.

The production and marketing goals for livestock, if achieved, would put more meat on consumer tables.

Price policies announced for 1971-75 apparently are designed to stimulate livestock production. Key features are:

—A 20-percent increase in state purchasing prices for milk and cream.

—A 20- to 30-percent increase in prices for several grades of wool.

—Price increases on sheep, goats, rabbits, and, in some areas, cattle.

—Fixed, regular purchase prices on livestock at previous premium levels.

—Price premiums of 35 to 50 percent on fat, young stock exceeding 300 to 420 kilograms (about 660 to 926 pounds), depending on the region.

—A 50-percent bonus on livestock product sales above planned levels, provided beginning-year inventories are maintained.

—The extension of collective farm livestock product prices to the private owners and to state farms.

The latter two measures to spur livestock output are especially important and could help renew growth in this lagging sector within the near future.

In general, though, the 1971-75 plan is modest in its production and marketing goals. It pretty much follows the same direction as the current 1966-70 program.

Nevertheless this program has been quite innovative compared with previous programs and has considerably improved the Soviet agricultural situation. (21)

THE GREAT PLAINS STORY



The pioneers knew it as the Great American Desert. Today we call it the Great Plains.

Framed on the east by the 98th meridian, by the Rockies on the West, Canada in the North, and Mexico in the South—the Great Plains takes in about one-fifth of the Nation's land area. It produces almost two-thirds of our wheat, more than a third of our cattle, and a quarter of our feed grains.

The conquering of this vast agricultural region is a saga of disappointments and triumphs.

To Zebulon Pike, when he traveled in the southern Plains in 1806-7, the region appeared as "tracts of many leagues where the wind had thrown up the sand in all of the ocean's rolling waves, and on which not a speck of vegetable matter existed."

The men who tried to farm the area used fewer words to make the same point. The Plains, they said, would be a fine country if they just had water—but then, so would hell.

Yet even before the days of windmills and water pumps, some people managed to eke out a living.

The Indians were the most successful. For centuries they maintained a satisfactory—if spartan—existence. Spanish explorers, and the Mexicans after them, were transitory settlers.

None of these early Plainsmen did much to alter the landscape. But they left their brand burned deep in the folk culture of the Plains—in the language, clothing, and equipment of the American cowboys who moved into the region after the Civil War.

The heyday of the cowboy was short-lived, lasting only a couple

of decades at most. But the era gave America some of its most colorful figures in such cowmen as Charlie Siringo, Tom Horn, and Andy Adams.

The cattle drovers also played a crucial role in the establishment of the Great Plains cattle industry.

In 1860, according to the Federal Census of that year, there were some 30,000 head of cattle in Nebraska and 65,000 in Kansas. But the Texas herd was the biggest by far—an estimated 3 million. Most of these were Long-

tick fever were not so great. But between these laws and the irate farmers, the movement of Texas cattle slowed to a trickle, not to be resumed till after the Civil War.

When the war was over, Texas cattlemen returned home to find their herds widely scattered. The first thing they did was to reclaim their cattle, no easy chore because outlaws and draft dodgers were also rounding up the unclaimed stock, branding as they went, and enforcing their brands with guns.

Cattle prices, meanwhile, had sunk lower with the rapid build-up in cattle numbers (about 5 million by 1870). Mature animals could be bought for \$3-\$4, and sold in Missouri for 10 times that amount . . . if only the cowboys could find a safe route to the North.

Drovers who took the old trails through Baxter Springs still had to contend with the Missouri farmers. Drovers who found new trails, further west through Oklahoma Indian territory, were stopped again; this time at the Kansas border by the Kansas quarantine that forbade passage of Texas cattle in certain months.

By 1867, however, the Kansas Pacific railroad had reached Abilene, which was soon to become a favorite shipping point for Plains cattlemen.

Cattle that were not fit to market by the time they reached Abilene and other rail terminals were conveniently fattened on the prairie grasses. Or they were sold to the ranches that were being opened up in increasing numbers as the railroads forged westward.

The hardy Longhorns from Texas soon began breeding with



horns, descendants of the cattle abandoned by the Mexicans decades earlier.

Initial attempts to drive Texas cattle to the rail terminals in Missouri were fraught with difficulties. For one, the northward droves set off an epidemic of Texas tick fever among native cattle en route. And farmers in southwest Missouri took up arms to halt the traffic of Texas cattle.

Quarantine laws were eventually passed to restrict the entry of cattle to the winter months when dangers of contagion and

the better grade of beef cattle that came in from the East. In a short space of 15 years, a viable livestock industry had sprung up on the Great Plains.

Cattlemen now sought to improve their herds. They needed fencing and plentiful water to do it.

Since Colonial days, America had been looking for a cheap fence that was "horse high, pig tight, and bull strong." In the East, farmers had timber and stone to fashion fences. In the Prairie Plains, there was neither.

Joseph F. Glidden of Illinois found the answer. On November 24, 1874, he was granted Patent No. 157,124. Barbed wire had been invented.

Crop farmers fenced in fields; ranchers fenced in pasture; they both fenced in water holes. Often they both fenced in land that did not belong to them.

Robert Frost said about New England that good fences make good neighbors. On the Plains, good fences sometimes led to range wars and frequently to posting of signs threatening "loss of scalp" to intruders on one's property.

Behind the salesmen of barbed wire came the salesmen of windmills. This machine—first produced on a large scale in 1875—brought a new water source to cattlemen, particularly to those who had been fenced out of their former water holes by barbed wire. It also enabled cattle producers to keep the rangeland from getting overgrazed, as they could subdivide their pastures, each with a windmill.

The windmill opened up grazing territory in western Texas that was once a wasteland. The Texas Almanac of 1870 saw possibilities in the windmill as a means to irrigate farmland as well. Western Texas, the Almanac predicted, would become "the paradise of the world."

The windmill, as we know, did not fulfill that prophesy. Nor did

it prove a match for the Plains' most effective and vicious weapon against those who sought to settle it: drought.

In the eastern part of the region, scarcity of water was less acute and farming crept in. Further west, however, neither irrigation, nor dry farming, nor windmills completely solved the moisture problem. In wet years, the farming frontier advanced, in dry years it fell back.

Recurring drought did, however, keep the rainmakers in business. To open the heavens over the Plains, the U.S. Department of Agriculture used the following apparatus in 1881 on the theory that loud and violent concussions would cause rain:

Twenty thousand pounds of iron borings and 16,000 pounds of sulphuric acid for the generation of 50,000 feet of hydrogen gas; 25,000 pounds of potassium chlorate for evolving 12,000 feet of oxygen gas, involving the use of 50 retorts and furnaces; 68 explosive balloons of 10 and 12 feet diameter, and three large balloons for ascensions . . . and material for 100 cloth-covered kites.

The idea was to explode the charges on land and in the air at measured intervals. The experiment, though impressive, was ineffective.

The men who came west of the 98th meridian found challenges in pitting brain and sinew against nature. Their wives had no such compensation.

The author of *Giants in the Earth* describes the desperation of a woman going west:

"The broad expanse stretching away endlessly in every direction, seemed almost like the ocean—especially now, when darkness was falling. Indeed, what was there to break it? She had passed beyond the outposts of civilization . . . the stillness had grown deeper, the silence more depressing, the farther west they journeyed. . . ."

History did not record how many women like her were driven

to insanity by the seemingly endless expanse. The price paid for settlement was high in shattered dreams, withered minds, and broken human beings.

But high as that price was, it was not enough to buy unconditional acceptance from the Plains. The Plains had struck back at the cattlemen who overgrazed it. It reserved an even more intense wrath for the farmers who, during the 20th century, pulverized its soil for planting.

Winds and drought were frequent. When the two combined, the result was disaster.

During the 1930's, clean breezes turned to dust filled gales, stripping the earth from America's middle and carrying it off in clouds.

The Plains had become the Dust Bowl.

The men who worked and owned the land tried frantically to hold on till good times returned.

As put by a farmer in North Texas, "Every dime I've got is tied up right here, and if I don't get it out I've got to drive off and leave it. Where would I go? I know what the land would do once. Maybe it will do it again."

By the 1930's, however, many Plains farmers had lost title to their land. In Oklahoma, for instance, nearly two-thirds of the farmers did not own the land they farmed. As times got tougher, these men had no choice: they moved.

Large numbers went to California; others tried to find work in States closer to home. Ultimately, some men and women saw no respite this side of the grave. "If you die, you're dead—that's all," the saying went.

The "Great American Desert" and the "Dust Bowl" are terms now relegated to history books.

Men are once again farming the Plains and grazing stock upon it. But man has never fully conquered the Plains. Rather, he has learned to meet this bountiful land on its own terms.



Buffaloes once symbolized a way of life on the Plains: food, shelter, clothing, and fuel (top left, woman gathers buffalo chips for the fire). At one time numbering 40 to 60 million, the seemingly unending tide was decimated to 20 known wild buffalo by 1900. These survivors, after being settled on wildlife refuges, had multiplied to 5,334 by 1969.

The windmill—old wizard of the wastelands—turned parched winds into water.

“Fortune And Folly,” The Original Kansas Wheat King’s Own Story

The Kansas of today is anything but a one-crop economy, even though wheat clearly dominates among the crop enterprises. Wheat contributes almost half the value of the State’s income from crop production. Corn, grain sorghum, barley, and oats make up most of the balance.

But while Kansas retains its unchallenged position as the Nation’s No. 1 wheat State—specializing in production of hard winter wheat—the State’s earnings from meat animals are almost twice those from all crops combined.

“If our farmers will diversify their crops—not depend almost entirely upon wheat alone—and raise more cattle, sheep and horses, they will ultimately become prosperous and independent,” a wise Kansan advised in the late 1800’s.

Down through the years, it’s taken a lot of experimentation to arrive at the most profitable mix of crops and livestock.

Some farmers, in the early days of trial and error, put too much emphasis on wheat. Others over-emphasized livestock. Farmers who went to either extreme sometimes ended up in the poorhouse. Take Mr. C. T. Henry, for instance.

It was the spring of 1877, and Kansas wheat was at its best. Steaming westward to Abilene, a train of the Kansas Pacific railroad carried an important passenger: a correspondent with the New York Herald who’d come a good distance just to write a story about a wheat field.

This particular wheat field was unique. It was reputedly the biggest tract east of the Rockies, and the first attempt to grow winter wheat in Kansas on a large commercial scale. The farm’s owner

also had quite a reputation in Kansas parts. He was Mr. C. T. Henry, alias “Kansas Wheat King,” wheat promoter, and last but certainly not least—speculator in real estate.

Henry’s “main” farm, for he

wheat farming *really* making money for local producers?

“The one idea of raising wheat,” retorted a prominent farmer in a letter to the Kansas Gazette, “together with all the attendant evils of machinery, to the almost ex-



had several, lay a few miles east of Abilene. The wheat field itself stretched about 4 miles on both sides of the Kansas Pacific tracks. Naturally, the train’s passengers took note of this spectacle. But they needn’t have asked who owned this great farm. Trainmen of the Kansas Pacific had instructions to announce, “We’re coming to Henry’s wheat field!”

“Riding in a silver palace car,” the Herald newsman wrote, “one of the most impressive sights . . . is this mammoth field . . . bending to the breeze and waving to and fro like a sea of molten gold. . . .”

It may well have been that Henry’s motive in inviting the reporter to Kansas was to publicize wheat growing for the benefit of easterners looking for investment opportunities.

In Kansas, on the other hand, the Herald’s story stirred up a beehive of controversy. Was

clusion of stock raising, is fast bringing our country to the verge of bankruptcy.”

In those days as now, much of the machinery was bought on credit. Failure of a wheat crop—if it was the sole farm enterprise—often spelled financial ruin for the farmer heavily in debt.

It was a fact, as Henry’s critic pointed out, that some producers got yields of 30 bushels to the acre. It was also true that many crops had to be planted twice due to insects, disease, and calamities of weather.

Henry himself boasted yields of 34 bushels in 1875. (In 1970, almost a hundred years after, Kansas yields for winter wheat averaged 33 bushels, a new record). In one year, even with a yield of just over 22 bushels, the Wheat King reported a profit of nearly \$19,000 from 1,200 acres. The 28,800-bushel harvest fetched a

price of around \$1.05 a bushel.

Henry had good crops for 3 years running. But trouble came in the 4th year, 1877. It befell the very same crop that had been extolled by the New York newsman.

First the ravaging of grasshoppers. Then wheat rust disease. As historian James C. Malin sums it up, "... Even under the guise of a real estate promoter's tactics, it was evident that Henry had lost much wheat. . . ."

The winter of 1877/78 marked a new turn in the ill-fated career of Mr. Henry. He became a partner in a livestock enterprise for the feeding of 5,000 sheep.

Drought in the years that followed convinced the Wheat King he ought to concentrate on livestock. Again the great speculator, he bought up pastureland by the tens of thousands of acres. The price to settlers was \$3 to \$5 an acre at 7-percent interest. Henry is said to have even advanced them money to buy sheep and cattle.

Now a leader in the Kansas livestock boom, Henry eventually stretched his bonanza too far. He had overextended himself financially. The lawsuits piled up, and in 1883, Henry quit Abilene to try his fortune elsewhere. □

On Land Where Grasses Are Varied, Water Is A Scarce Resource

Tall grass, short grass, desert grass, or buffalo grass. By whatever name, the grasslands predominate in the Great Plains.

Frontiersmen who left their timbered homelands and headed west of the Mississippi soon learned that grass is a barometer of climate—and a measure of patience.

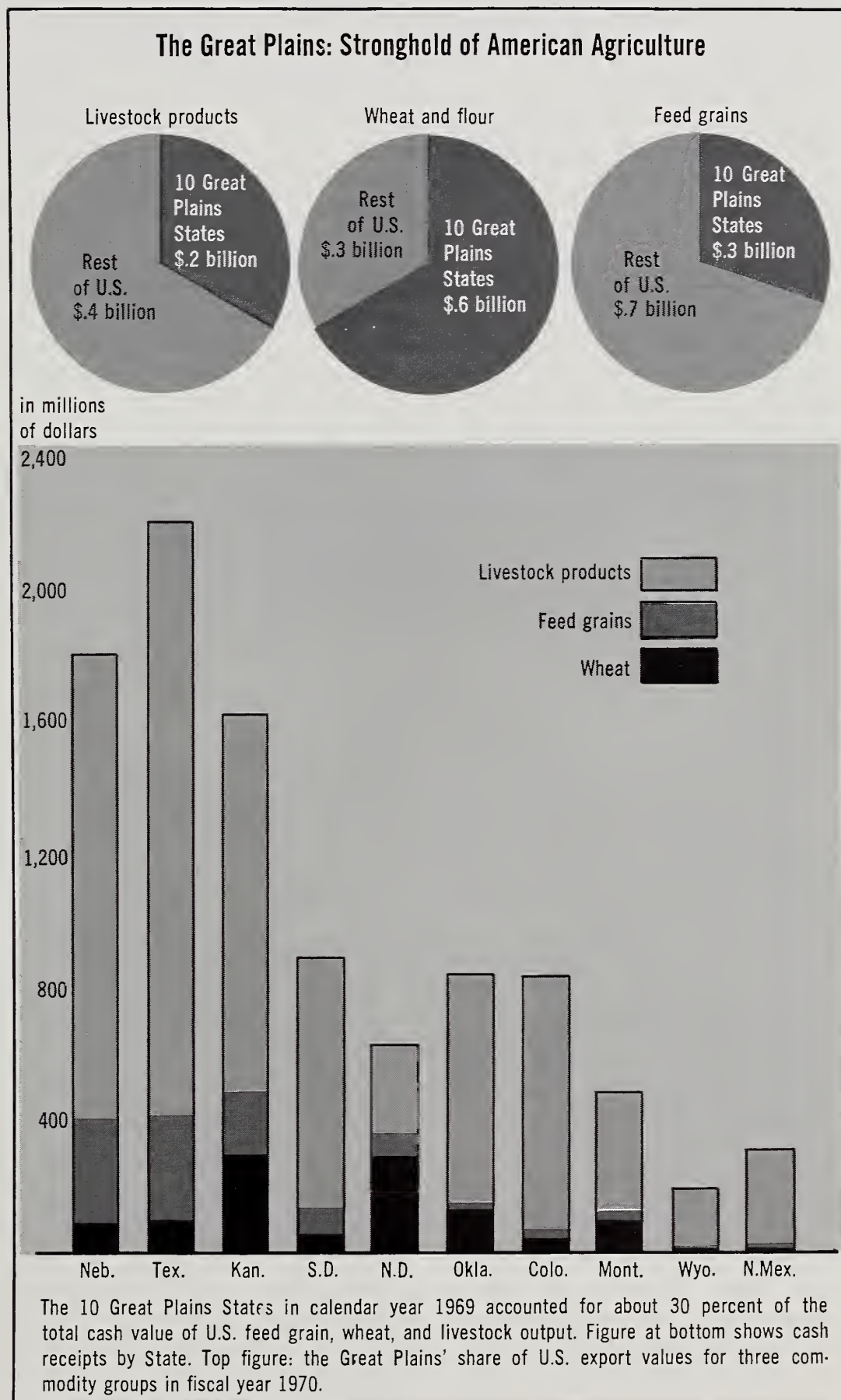
As a whole, the Plains are

plagued by variable rainfall, extremes of temperature, a complex soil pattern, a short growing season in the North, high evaporation in the South, high winds, and frequent drought.

Where the tall grass grows and

the soil is rich (from eastern North Dakota into Texas) rainfall is near the critical limit for many crops. With rain, crops are good. Without, they fail.

In the western and northern areas of the Plains, the growing



season becomes shorter and cooler. Rainfall and evaporation are relatively low, and grasses can lie dormant for long summer periods, reviving with a little rain.

But wherever and whenever it comes, water is a scarce resource. Over much of the region the average annual runoff is less than 1 inch, though in the eastern part it is from 1 to 5 inches.

Of the rain that does fall in the Plains, more than two-thirds is lost by evaporation alone. Even a small reduction in evaporation would greatly add to the stability of production.

Accelerated research now underway on soil-water-plant relationships and on the adaptation of plants to climatic stress could help reduce crop losses and economic distress. And the benefits would be regionwide. □

Coping With Today's Ways Isn't Easy For Most Descendents Of First Plainsmen

Lloyd Manydeeds, a Standing Rock Sioux, rises with the North Dakota sun to line up the day's work on his cattle ranch.

About a thousand miles to the south, Wayne Hunt (Chief Wolf Robe, a resident of Tulsa, Okla. and member of New Mexico's Acoma tribe) is starting his day with paint brush and easel that have won him world recognition.

Lloyd and Wayne are two of the Plains' more fortunate Indians who have broken through the cultural barrier that has long separated America's first settlers from the white men who came after.

In sharp contrast, the majority of our first Americans are among the most deprived of our rural

groups today. They are "poor" in terms of money, health, and education. And culturally, they are in limbo between their old ways and a new, alien world.

The transition from buffalo hunting to livestock production . . . from sand painting to modern art . . . from plaiting grass baskets to planting wheat . . . has not come easy for about 223,000 Indians whose home is on or adjacent to reservations in the Great Plains States.

These Indians of the Plains comprise nearly half the 452,000 (including Alaska natives) who are eligible for services from the Bureau of Indian Affairs.

Generally speaking, these Indians have one-quarter or more Indian blood. They are members of tribes with Federal trust land. They live on a reservation, former reservation, or nearby.

At least another 200,000 Indians (some estimates run as high as 400,000) have cut the cord that binds them to Federal jurisdiction: They have entered the mainstream of modern America.

Rural Folks Migrate Far And Wide To Be Where The Jobs Are

For the Great Plains as a whole, rural populations have been declining or growing only slowly for many years. Thus in the 1960's, rural population loss was not a new experience for most areas of this region.

Preliminary reports from the 1970 Census indicate the rural population of the Plains decreased almost 6 percent during the past 10 years. In the previous decade, there had been a slight overall increase, but with most counties losing.

When urban areas of the Plains are included, the Census shows a total net gain of a shade under 3 percent in the 1960's—much less than the 15-percent increase in the fifties.

Two States showed an absolute loss in population: North Dakota, a loss of 22,000, and South Dakota, 19,000. (Mississippi, West Virginia, and the District of Co-



lumbia were the only others that lost in population.)

As in many other parts of the country, people are leaving the region because of reduced manpower needs in agriculture. Moreover, the prospect of earning higher incomes is greater in other occupations.

In the 1960's, a majority of the Nation's new jobs were in the larger towns and cities. But in the Great Plains—between the 98th meridian and the Rocky Mountains—there are but a handful of metropolitan centers with populations of 100,000 or more. And most of these metro centers are situated on the fringes of the Plains proper. Job seekers often migrate far and wide to find suitable means of employment.

Net migration has thus taken two forms:

One is a movement from rural areas to urban places within the Plains, leaving vast rural sections with a sense of isolation and a relatively large proportion of older people.

The other is a net movement from the 10 Plains States altogether.

Those who have chosen to stay in the Plains have benefited from rapid rises in their incomes in recent years. In 1968, for example, the average per capita income came to over \$3,000 against slightly less than \$2,000 in 1960.

Nevertheless, incomes in the rest of the Nation have increased at a faster rate than in the Great Plains, both in the total amount and on a per person basis. The per capita figure for the other 40 States in 1968 averaged almost \$450 higher.

Whether the dollar gap can be narrowed in the near future is an open question.

What does seem evident is that the potential Great Plains labor force will continue to expand faster than jobs. If so, migration from rural to urban areas will continue, though perhaps at a diminishing rate.



Great Plains Conservation Program And How Come Farmers Like It

A visitor to a western ranch, impressed by the ferocity of the winds of the Great Plains, once asked a cowboy whether the winds blew like this all the time.

"No, Mister," the ranch hand replied. "It'll maybe blow this way for a week or 10 days. Then it'll take a change and blow like the devil."

Hot winds, warm winds, drought, floods, blizzards, and hailstorms are perils the Plains farmer cannot very well escape. But he now has the means to soften the punch of climatic extremes . . . if he believes in conservation programs.

The government, for one, stands ready to give assistance. It offers a program especially tailored to Plains conditions.

Farmers who agree to undertake certain conservation practices can get part of the job done free of charge. Under this program, the government generally pays from 50 to 80 percent of the total cost for certain practices.

The Great Plains Conservation Program (GPCP) differs from other Federal programs for conservation of our natural resources in two important aspects.

Farmers and ranchers must agree to adopt a "conservation package" in order to qualify for the GPCP. This involves a comprehensive plan for the entire farm unit.

And, producers must take on

contracts with the government to perform the prescribed practices within periods of 3 to 10 years.

Farmers may choose from over 20 prescribed practices in making up their conservation package—including conversion of cropland to permanent grass cover, reseeding of pasture and rangeland, livestock water development, fencing, terracing, windbreaks, and irrigation system improvement.

The government will now also pay part of the costs for fish and wildlife conservation, for build-

ing recreation facilities, and for the abatement of agriculture-related pollution. These latter provisions were included for the first time in the legislation of November 1969 that extended the GPCP through 1981.

This law (P.L. 91-118) also doubles the authorized expenditures for the GPCP to \$300 million. Total payments in any 1 year shall not exceed \$25 million.

The original GPCP became effective in 1956. It was an amendment to the Soil Conservation and Domestic Allotment Act. The au-



thorized funding was \$150 million through 1971.

To date, more than 31,000 farmers have been enrolled in the GPCP, in over 420 counties in all 10 States of the Great Plains. Many other farmers have applications pending.

In Texas, a dry spring in 1967 took less of a toll than would have been the case without the GPCP. Damages from dust storms were "significantly reduced" in areas where 25 to 40 percent of the agricultural land was under program contracts. Texas had the largest number of contracts since 1956, accounting for about a third of the total.

A Montana rancher reports: "The combination of conservation practices in my Great Plains plan has increased the grazing capacity of my ranch beyond the expected 70-head increase originally planned in 1962.

"This year the final year of my plan and contract, I will use up the balance of the Federal cost-share allocated for my ranch. The conservation practices I have applied are of a permanent nature, and they will last much longer than the 7 contracted years."

In a recent survey—of some 150 GPCP participants in 14 counties in northwestern Kansas and eastern Colorado—an overwhelming majority said the program was beneficial to their operations. Over 15 percent said the benefits exceeded their initial expectations.

More than two-thirds believed the program decreased soil erosion, reduced the risk of extreme weather hazards, increased the supply of water, and enhanced the value of the land they operated.

For the Great Plains as a whole, nearly 2 million acres of unsuitable cropland have been returned to more profitable grassland since 1956. Another 1-million-plus acres of damaged or depleted rangeland have been reseeded.

The GPCP nevertheless has not

met all the goals that its makers envisioned 14 years ago. USDA officials believed in 1956 that out of the total program authorization of \$150 million, three-quarters would be used to convert cropland to grass.

As of late last year, about 15 percent of the funds had gone for regrassing. Ten percent went for reseeding rangeland, the balance for such things as terraces, stock ponds, and irrigation.

About half the 315 million acres of cropland, range and pastureland in the Plains still needs conservation treatment.

A prime mover in the establishment of the Great Plains Conservation Program was the Great Plains Agricultural Council.

Formed in the early 1930's, the Council meets annually to discuss a wide range of problems peculiar to this region, to develop possible solutions, and to promote the adaptation of resource programs to Plains conditions. Its members include administrators from land-grant universities as well as officials of the U.S. Department of Agriculture.

Cattle Feeding: Big Business In The South Plains

The South Plains has long produced enormous supplies of feed grains as well as huge numbers of husky beef calves.

But unlike the Corn Belt, where the cattle feeding industry developed decades ago, the South Plains' production of "finished" cattle is a recent phenomenon.

In 1960, less than 10 percent of U.S. marketings of finished cattle came from this region—which includes parts of Texas, New Mexico, Oklahoma, Kansas, and Colorado. By 1969, however, the South Plains had gained about

one-fourth of the market. Significantly, all this expansion occurred in what's known as specialized feedlot feeding.

Why the absence of on-farm cattle feeding such as is practiced in the Corn Belt? Many Plains farmers, for one thing, concentrate on producing wheat and cotton rather than feed grains. These men cannot be assured of raising their own feed grain supply each and every year owing to capricious climate.

Furthermore, unlike the Corn Belt where the know-how of cattle feeding passed from father to son, the South Plains had to wait till this industry attained the status of a science rather than a husbandman's art. It takes sophisticated technology to raise cattle in feedlots . . . technology that is based on research that only in recent years has been getting attention.

Cattle feeding in the South Plains may or may not continue to expand at the rate of recent times. The feedlot industry, at least, appears confident about the outlook.

Huge new feedlots are going up, even though some of the existing lots are not operating at full capacity this year. Plans are to draw feeder cattle from more distant sources.

And despite the upsurge in feeding, the South Plains still produces a surplus of feed grains—chiefly grain sorghum—and exports them from gulf ports or ships them to Arizona and California.

On the other hand, certain factors could slow the growth of cattle feeding. One is competition from other livestock. Hog output, for instance, is expected to increase, since it costs less to raise hogs locally than to bring in live hogs and pork from outside the South Plains. Another is that profit margins may narrow as feedlot operators try to develop more distant outlets for their finished cattle.

Plains Notes

Strictly speaking, the Great Plains proper embraces a cluster of some 400 counties, including a substantial proportion of 10 States. The section to follow pertains to these States in toto.

Population. The 10 Great Plains States encompass about 30 percent of the Nation's land area, but only 11 percent of the total population. The largest Plains State, Texas, also has the most people, nearly 11 million by the 1970 Census count. It's the region's most densely populated State as well . . . about 42 persons per square mile. Wyoming has the smallest population (under 329,000) and is the least densely populated . . . fewer than 4 persons per mile.

Farm income. Realized net income per farm in the Plains States averaged \$5,786 in 1969, compared with \$5,437 for our country as a whole. New Mexico's net income, at \$9,119, was highest in the region and 7th highest in the Nation.

Plains changes. In the years between the Agricultural Censuses of 1944 and 1964, total farm numbers in the Plains States declined by about 40 percent to 655,000 . . . average farm size grew nearly 70 percent to 844 acres . . . fertilizer expenditures rose from \$10 per farm to \$400 . . . wheat yields increased 34 percent; grain sorghum, 100 percent; corn and barley 57; and oats 30.

Wheat facts. Out of the Great Plains comes most of our hard red winter wheat—the kind that bread is made of. Called *winter wheat* because it's sown in the fall and becomes dormant in the cold months, this wheat type is grown mainly in Kansas, Nebraska, Oklahoma, and the Texas Panhandle. The Dakotas and parts of Montana supply most of our *hard spring wheats*. These are also well-suited for breadmaking.

North Dakota, in addition, produces almost all our *durum* wheats for macaroni and pasta. In 1969, Kansas led in output of all wheats combined, followed by North Dakota, Oklahoma, and Montana.

Livestock kingdom. The Great Plains has one-half the U.S. herd of beef cows. Texas ranks first in the Nation (15 percent), and Oklahoma second (6 percent). Of the country's top seven beef producing States, all but one—Missouri—are in the Great Plains. Texas is also the Nation's No. 1 sheep State, Wyoming second, and Colorado fourth.

Other products. Though the Plains stands out in production of livestock, wheat, and feed grains (grain sorghum, corn, milo, oats, and barley), it's also a major source of our cotton, rice, soybeans, peanuts, and flaxseed.

Higher education. The people surging westward a century ago wanted "people's colleges" that their children could attend at minimum cost. National action for this idea came with the Land-Grant College Act (the Morrill Act) signed into law in 1862. It provided for the grant to States of specified amounts of federally owned land, proceeds from which were to be used for establishing colleges specializing in agriculture-related disciplines. Today, every Great Plains State has a land-grant college. Kansas State College of Agriculture was the first land-grant school in the region (1863).

Recreation. The spectacular scenery and unusual geological structures of the 10 Plains States afford a full range of recreation pursuits, from skiing on the lofty peaks of Colorado's mountains to spelunking in New Mexico's arid caverns. The not-so-sports minded vacationers can visit such attractions as the world's biggest geyser area . . . the largest under-

ground caverns yet discovered . . . and one of the world's greatest wildlife sanctuaries. Of our 35 National Parks, 9 are in the Plains States. Yellowstone National Park is the largest by far with over 2 million acres. It was also the first National Park to be established (in 1872).

Plains dates

. . 1540-42. Francisco Vasquez Coronado pushes European exploration into the Plains.

. . 1848. The Mexican Cession gives the United States claim to nearly all the territory now included in the States of Texas, Ariz., Nev., Utah, Calif., and parts of N. Mex., Colo., and Wyo.

. . 1854 Daniel Halladay invents the American windmill.

. . 1862. Homestead Act offers free land to settlers.

. . 1869. First transcontinental railroad completed.

. . 1870. Beginning of the open range cattle industry.

. . 1874. Joseph F. Glidden granted patent for barbed wire.

. . 1876-77. Grasshopper plagues lead to establishment of U.S. Entomological Commission.

. . 1886-87. Overgrazing and blizzards force changes in cattle industry.

. . 1890. Organized Indian resistance to white settlement ends with Ghost Dance uprising of Sioux Indians and "battle" of Wounded Knee in South Dakota.

. . 1904-18. Cattle industry, and later grain production, moves into western and southwestern Plains.

. . 1933. Agricultural Adjustment Act initiates crop and marketing controls.

. . 1934. Severe drought creates the Dust Bowl. Taylor Grazing Act gives Department of the Interior power to regulate grazing on public domains.

. . 1935. Soil Conservation Service established by Soil Erosion Act.

. . 1956. Legislation sets up Great Plains Conservation Program.

Recent Publications

EFFECT OF ALTERNATIVE WHEAT AND FEED GRAIN PRICES ON OPTIMUM FARM PLANS AND INCOME IN CENTRAL SOUTH DAKOTA. Erwin O. Ullrich, Jr., Farm Production Economics Division, and John T. Sanderson, South Dakota State University, So. Dak. Agr. Expt. Sta. Bull. 574.*

Model farms were developed in this study to show the possible adjustment on individual farming units. These farms are intended to represent the dominant size (or sizes) of wheat farms that will exist in the 1970's.

AN ECONOMIC EVALUATION OF THE GREAT PLAINS CONSERVATION PROGRAM. James Kasal and W. B. Back, Natural Resource Economics Division, ERS-440.

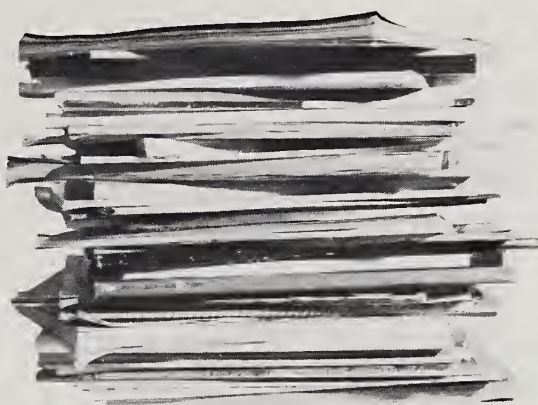
"The semiarid region" of The Great Plains makes up about one-fifth of the land area of the contiguous 48 states. Despite conservation efforts, about 10 million acres of land highly susceptible to wind and water erosion still have no permanent vegetative cover.

MARKETING ECONOMICS RESEARCH PUBLICATIONS—A REFERENCE LIST. Marketing Economics Division, ERS-205 (Rev.).

This publication lists research material on marketing economics published between 1960 and December 1969. Included are studies or papers put out by the Department of Agriculture, and by cooperating land-grant colleges and universities. Also listed are reports prepared by private institutions and published cooperatively or under contract with the USDA.

ALTERNATIVE GOVERNMENT RICE PROGRAMS. Warren R. Grant and D. S. Moore, Farm Production Economics Division, AER-187.

The high ratio of exports to domestic use makes the U.S. rice industry heavily dependent on



The publications listed here are issued by the Economic Research Service and cooperatively by the State universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained only by writing to the issuing agencies of the respective States.

world rice conditions. Due to scarce world supplies and favorable prices after World War II, both U.S. and foreign rice acreage and production expanded rapidly. How government programs affect individual rice producers, economies of rice producing areas, and costs to the U.S. government are matters of continuing concern.

EFFECT OF BURLEY TOBACCO PRICES ON ALLOTMENT LEVELS ON PROFITABLE FARM ADJUSTMENTS IN FOUR AREAS OF KENTUCKY. Verner N. Grise, Farm Production Economics Division, and James F. Thompson, Murray State University (Murray Ky.), Univ. of Ky., Agr. Expt. Sta. Research Report 3*.

This is the first of two studies dealing with the effects of various

burley tobacco price-allotment combinations on farm production, income, and resource use in three Bluegrass areas and the Western Pennyroyal area of Kentucky.

MECHANICAL GLEANING AND GINNING OF GROUND-LOSS COTTON IN THE YAZOO-MISSISSIPPI DELTA. Morris M. Lindsey, Farm Production Economics Division, Charles S. Shaw, and Joe E. Clayton, Agricultural Research Service, in cooperation with Mississippi State Agricultural Experiment Station. Miss. Agr. Expt. Sta. Bull. 775.

Field or ground-loss of seed cotton has been a major source of complaint against mechanical harvesting since the advent of the mechanical cotton picker. (See April 1970 Farm Index).

ECONOMIC CHARACTERISTICS OF AND CHANGES IN THE MARKET EGG INDUSTRY. George B. Rogers, Robert M. Conlogue, and Ruth J. Irwin, Marketing Economics Division, MRR-877.

Centers of egg production have shifted drastically since World War II. The Midwest, long the most important producer, has given way to new centers of production in the South and West. Explanation for the changes includes: efficiency of operations, egg quality, and input prices.

RURAL INDUSTRIALIZATION: CASE STUDY OF A TISSUE PAPER MILL IN PICKENS, MISS. John C. Crecink, Economic Development Division, AER-189.

The paper mill established in Pickens, Miss., in 1962 under sponsorship of the Area Redevelopment Administration (ARA) was a "salvage operation." Owners of the plant attributed failure of the operation to lack of skilled employees, frequent breakdowns of the secondhand machinery, variability in quality of the wet pulp purchased on the open market,

and lack of a firm market outlet for the product. (See June 1970 Farm Index.)

DEVELOPMENTS IN MARKETING SPREADS FOR AGRICULTURAL PRODUCTS IN 1969. Economic Research Service reprint, Prepared by the Economic Research Service for the Subcommittee of the Committee on Appropriations, United States House of Representatives, Ninety-First Congress, Second Session, ERS-14.

Food prices attracted wide attention again in 1969. Price increases no doubt reflected general inflationary pressures and rising

prices in nearly all sectors of the economy. The price rise can be traced partly to a smaller-than-usual increase in supply of farm food commodities and continued strong consumer demand, particularly for beef and other animal products.

EASTERN EUROPE'S AGRICULTURAL DEVELOPMENT AND TRADE: PATTERNS AND PERSPECTIVES. Roger E. Neetz, Foreign Regional Analysis Division, FAER 64.

Eastern European Agriculture has undergone the full transition from a privately operated farm

sector to a socialized one. In general, agricultural output has tended upward, along with incomes and consumer demand (see page 18, this issue).

WOOL STATISTICS AND RELATED DATA, 1930-1969. Mildred V. Jones, compiler, and others in Economic and Statistical Analysis Division, Stat. Bull. No. 455.

These statistics cover production, consumption, foreign trades and prices on wool, mohair and other similar fibers. While most data are for the United States, coverage also includes several other countries and world totals.

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2. Robert F. Boxley, William A. Green, and Roger Strohbehn, NRED. Analysis of Alternative Procedures for the Evaluation of Agricultural Flood Control Benefits (manuscript).
3. Ray S. Corkern and Warren K. Trotter, MED. Kenaf: Potential Production Acreage in the South (manuscript).
4. Henry C. Gilliam Jr., FPED. *Production of Beef Cattle in the Southeast: Selected Characteristics and Trends*, N. C. Agr. Expt. Sta., EIR 16*.
5. *The Poultry and Egg Situation*, PES 263.
6. *Seed Crops*, Statistical Reporting Service, SeHy 1-1 (8-70).
7. Malcolm Clough and Jack S. Ross, ESAD. *Feed Situation*, FdS 235.
8. *Wheat Situation*, WS-213.
9. Wylie D. Goodsell, Owen K. Shugars, and Daphene E. Tippet, FPED. *Costs and Returns Of Commercial Broiler Farms, Ga.*, FCR-74.
10. Helen Johnson, EDD. (Special material.)
11. Harold E. Marshall, NRED. Economic Efficiency Implications of Federal-Local Cost Sharing in Water Resource Development, *Water Resources Research Journal*, June 1970.
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13. Robert Reinsel, FPED. *Farm Real Estate Market Developments*, CD-75.
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NOTE: Unless otherwise indicated, authors are on the staff of the Economic Research Service (ERS) with their divisions designated as follows: Economic and Statistical Analysis Division (ESAD); Economic Development Division (EDD); Farm Production Economics Division (FDTD); Foreign Regional Analysis Division (FRAD); Marketing Economics Division (MED); and Natural Resource Economics Division (NRED).

Economic Trends

Item	Unit or Base Period	'57-'59 Average	1969		1970		
			Year	August	June	July	August
Prices:							
Prices received by farmers	1910-14=100	242	275	277	281	286	276
Crops	1910-14=100	223	220	217	232	235	226
Livestock and products	1910-14=100	258	323	330	323	330	319
Prices paid, interest, taxes and wage rates	1910-14=100	293	373	374	390	389	389
Family living items	1910-14=100	286	351	352	366	366	367
Production items	1910-14=100	262	304	304	313	313	312
Parity ratio		83	74	74	72	74	71
Wholesale prices, all commodities	1957-59=100	—	113.0	113.4	117.0	117.7	117.2
Industrial commodities	1957-59=100	—	112.7	112.8	116.7	116.9	117.1
Farm products	1957-59=100	—	108.5	108.9	111.3	113.1	108.2
Processed foods and feeds	1957-59=100	—	119.8	121.5	124.8	126.6	126.1
Consumer price index, all items	1957-59=100	—	127.7	128.7	135.2	135.7	136.0
Food	1957-59=100	—	125.5	127.4	132.7	133.4	133.5
Farm Food Market Basket: ¹							
Retail cost	Dollars	983	1,173	1,197	1,228	1,237	1,237
Farm value	Dollars	388	477	495	479	498	476
Farm-retail spread	Dollars	595	696	702	749	739	761
Farmers' share of retail cost	Percent	39	41	41	39	40	38
Farm Income: ²							
Volume of farm marketings	1957-59=100	—	126	122	110	124	123
Cash receipts from farm marketings	Million Dollars	32,247	47,229	3,821	3,525	3,846	3,800
Crops	Million Dollars	13,766	18,790	1,468	1,152	1,524	1,500
Livestock and products	Million Dollars	18,481	28,439	2,353	2,373	2,322	2,300
Realized gross income ³	Billion Dollars	—	54.6	—	56.2	—	—
Farm production expenses ³	Billion Dollars	—	38.4	—	40.1	—	—
Realized net income ³	Billion Dollars	—	16.2	—	16.1	—	—
Agricultural Trade:							
Agricultural exports	Million Dollars	4,105	6,228	438	539.4	558.3	528.5
Agricultural imports	Million Dollars	3,977	5,024	408	490.9	455.3	458.1
Land Values:							
Average value per acre	1957-59=100	—	⁵ 187	⁶ 187	⁷ 186	⁷ 186	⁷ 186
Total value of farm real estate	Billion Dollars	—	⁵ 202.6	⁶ 202.6	⁷ 208.9	⁷ 208.9	⁷ 208.9
Gross National Product: ³							
	Billion Dollars	457.3	931.4	—	971.1	—	—
Consumption	Billion Dollars	294.2	577.5	—	614.4	—	—
Investment	Billion Dollars	68.0	139.8	—	134.3	—	—
Government expenditures	Billion Dollars	92.4	212.2	—	218.4	—	—
Net exports	Billion Dollars	2.7	1.9	—	4.1	—	—
Income and Spending: ⁴							
Personal income, annual rate	Billion Dollars	365.3	748.9	758.5	798.2	3.3	807.4
Total retail sales, monthly rate	Million Dollars	17,105	29,303	29,346	30,518	30,739	—
Retail sales of food groups, monthly rate	Million Dollars	4,160	6,322	6,429	6,818	6,780	—
Employment and Wages: ⁴							
Total civilian employment	Millions	63.9	77.9	78.1	78.2	78.6	78.4
Agricultural	Millions	5.7	3.6	3.6	3.6	3.5	3.4
Rate of unemployment	Percent	5.5	3.5	3.5	4.7	5.0	5.1
Workweek in manufacturing	Hours	39.8	40.6	40.6	39.8	40.1	39.9
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	3.19	3.20	3.36	3.37	3.36
Industrial Production: ⁴							
	1957-59=100	—	173	174	169	169	169
Manufacturers' Shipments and Inventories: ⁴							
Total shipments, monthly rate	Million Dollars	28,745	54,611	55,239	56,528	56,866	—
Total inventories, book value end of month	Million Dollars	51,549	95,905	93,728	97,739	98,505	—
Total new orders, monthly rate	Million Dollars	28,365	54,815	54,799	55,642	56,600	—

¹ Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1959-61—estimated monthly. ² Annual and quarterly data are on 50-State basis. ³ Annual rates seasonally adjusted second quarter. ⁴ Seasonally adjusted. ⁵ As of March 1, 1969. ⁶ As of November 1, 1969. ⁷ As of March 1, 1970.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

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